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A CONTRIBUTION TO THE SUBJECT OF ACUTE PLEURISY: ITS PATHOLOGY, ETIOLOGY, SYMPTOMATOLOGY, AND TREATMENT.¹

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THE proper classification of an inflammatory affection of a serous membrane, and especially of the pleura, is not an easy task. The terms "acute," "subacute," and "chronic," that have been applied to diseases of that nature, are often subjects of much criticism, no matter what pathologic lesions or symptomatic indications they may be derived from.

In considering acute pleurisy, I shall not hope to unravel these disputed questions, and only trust that I shall not fall into the common error of making them more intricate.

The term "acute" pleurisy indicates an inflammatory condition, more or less general in extent, of the serous membrane lining the pleural cavity, with sero-fibrinous or purulent deposits, primary or secondary in nature, of microbic or other origin, with a certain degree of sharpness of attack, and in which the height of the disease is attained in a few days, ten at the most, and accompanied by a rise in temperature of greater or less extent. Acute pleurisy may thus be (1) dependent on preëxisting disease or lesions, the development of which may cause sudden intense inflammatory conditions of the pleura, more or less extensive; or (2) it may be an idiopathic disease.

PATHOLOGY.—Hyperemia, or congestion of the bloodvessels within the serous and subserous connective tissue, causing swelling, redness, and edema of the pleura, is the first noticeable lesion of acute idiopathic pleurisy. This congestion may take place in some localized spot and rapidly extend to a greater or less degree; or it may, from the first, present quite a general appearance over the surface of the pleura. Soon the smaller and weaker capillary vessels rupture, producing ecchymotic spots over the membrane, and, at the same time, infiltration of the subserous connective tissue occurs, with a proliferation and detachment of epithelial cells. As the process progresses the pleura is studded

with fine granulations upon its surface, in which appear embryonic cells. These tend to organize the newly-formed connective tissue into firm fibrinous bands, which, in old cases, are often found stretching across the pleural cavity, and constitute the so-called neo-membranes. Finally, from the congested serous membrane is poured into the cavity a liquid resembling in all respects the plasma of the blood, except that it is more dilute; the degree of dilution, however, varies with the intensity of the congestion, according to the coagulability of the fibrin in the effused fluid. There are, also, red blood-corpuscles and leukocytes in the liquid; but in simple sero-fibrinous pleurisy the red globules are not in sufficient numbers to cause any marked discoloration; if such occur, the pleurisy is termed "hemorrhagic."

"Inflammation," says M. Germain Sée,¹ "is a struggle for life, and not a destructive process; it is essentially a vital phenomenon eminently reactionary against a morbid agent." He believes that the teachings of microbiology show that inflammation is a physiologic process strongly exaggerated; a general struggle of the organism against microbic invaders. "The first step in this process," he says, "is leukocytosis, or the exaggerated production of white corpuscles in the blood; and the second is the absorption and destruction of microorganisms by these leukocytes, showing the defensive action of the latter; this is called "phagocytosis."

Certain physiologic functions are attributed to the phagocytes:

1. They carry from the albuminates in the intestinal canal material for combustion in the tissues.
2. Owing to their ameboid movements they are capable of transporting to distant parts of the body substances in their vicinity.
3. They possess, under certain conditions, a reproductive function, and a power of collecting themselves in vast quantities in certain localities.
4. They have what is known as a chemotactic function; so that the leukocytes thus play a considerable rôle in the morphologic contexture, as well as the chemistry of the body.

The French supporters of the germ-theory of disease believe that when microbes have penetrated the organism, the leukocytes increase; that the conditions that bring them to the blood carry them to the point of excitement, and that it is a chemical

¹ Read at the meeting of the New York State Medical Association, held in New York City, November 15, 16, 17, 1892.

¹ Bulletin de l'Académie de Médecine, May 10, 1892, p. 680.

property that draws them there. This, they claim, is true of all high-grade inflammations, as pneumonia, but not of the low grade, as malarial fevers.

In pneumonia there is an increase of leukocytes during the height of the disease, but as the fever abates the number of leukocytes diminishes. It is, therefore, held that the real termination of the disease, whether by crisis or lysis, occurs at the time when the leukocytes begin to diminish in the blood.

In acute inflammations there are three stages of development: First, vascular dilatation; second, activity and proliferation of endothelium; third, exudation, with diapedesis of leukocytes. As a consequence of these three stages it is claimed that a great afflux of phagocytes takes place toward the point of attack, both in purulent as well as in catarrhal inflammations; it is less seen in serous varieties, and, perhaps, not at all in infectious processes, the reason for this being that the infectious matters destroy the phagocytic function of the leukocytes, and hence the body has no protecting element against the enemy, and becomes the prey of the microbe. Suppuration is considered no exaggeration of inflammation, but is primarily due to the action of streptococci or staphylococci, and although great numbers of phagocytes may be found, yet their defensive action is much harassed by their deadly enemy, the pus-germs.

From the foregoing, if we are to accept this doctrine, we may conclude that inflammation is a physiologic process to develop phagocytes for the purpose of antagonizing microbes.

Anatomically the pleura is a great lymphatic sac, contiguous with the arterio-pulmonary system, and naturally derives its serosity from that source.

According to the eminent French teacher, M. Guérin,¹ "pleurisy is nothing else than lymphangitis." "If one injected the pulmonary artery," says Guérin, "with colored liquid, it would be found that the liquid would appear in the polygonal ramifications of the lymphatics of the pleura."

Moreover, he has practised on the cadaver the injection of bullock's blood in the same manner, and finds that he obtains a serosity from the pleura which, if much force is used in the process of injecting, becomes bloody, or red in color. This is on the healthy lung and pleura. If, on the other hand, he injects a colored liquid in a subject that has suffered and died from pleurisy, there will be found no coloring-matter in the meshes of the lymphatics except those that have not been affected by the inflammatory process. If this be true, we can readily see that when from some cause the lymphatics of the pleura become congested and swollen, and the natural channels for the lymph impeded,

an edematous condition of the subserous connective tissue will arise, due to forced diapedesis of the serous exudate, and cause the fluid to ooze from all parts into the cavity.

If, then, the lymphatic stoppage is complete enough, and the force behind is strong enough, there will also be more or less diapedesis of red blood-corpuscles, and hence the hemorrhagic pleurisy. If we find leukocytes in the lymphatic exudation, does that not best explain the formation of pus? It has been stated that the serous exudate of acute pleurisy does not differ materially from the plasma of the blood. (The reason for this appears plain if we consider the contiguity of the arterial capillaries with the lymphatics.) If drawn off, it will coagulate, often spontaneously; if beaten or whipped, it will show a deposit of fibrin; and the constituents are the same as the plasma of the blood, except in relative proportion.

It often happens, when one is practising puncture to draw off the effusion of acute pleurisy, that the needle, if small, becomes clogged with fibrinous flocculi. From this fact, it is argued by M. Lancereaux,¹ that these flocculi, and more especially the finer ones, become obstructed in the openings of the lymphatics and produce a mechanical hindrance to the exit of the effused fluid by the thrombus thus formed. When this has occurred to such an extent that it impedes the absorption of liquid beyond the natural time required for the evolution of the disease, he avers, "one must wait for the disintegration and absorption of the clot before any diminishing of the quantity of the fluid by nature takes place."

Secondary pleurisies, or those acute attacks from some preëxisting disease which often occur, doubtless present in many cases the pathologic lesions in the pleura upon which such disease depends; but I can see no reason for the opinion of some authors, that every pleurisy is dependent on lesions of preëxisting maladies, and especially tuberculosis.

ETIOLOGY.—In considering the causation of acute pleurisy, one must of necessity admit that there are two general classifications from an etiologic point of view:

a. Those that are not due to any preëxisting disease;

b. Those that are so due.

At the present day there are many and diverse opinions held by eminent medical men as to the factors that produce primary idiopathic pleurisy. There are, indeed, those who would go so far as to say that all pleurisies are tuberculous in origin, and, hence, secondary.

¹ Bulletin de l'Académie de Médecine, April 26, 1892.

¹ Bulletin de l'Acad. de Méd., May 3, 1892, p. 661 et seq.

Undoubtedly, many pleurisy deemed primary are in reality dependent on some complicating or preëxisting disease; but to say that a person must be weakened by constitutional maladies in order to become privileged to have pleurisy, seems as if we were carrying the causative factors beyond the point warranted by our pathologic research. I doubt not, if the chests of many persons who to-day are in good health and have never been cognizant of pleurisy were opened, we would find various traces of old adhesions and other ancient lesions of former pleurisy.

It must, therefore, be admitted, even at the present day of biologic research, that the etiology of acute pleurisy is often obscure: the microbe will not account for all the cases; neither will any other one causative factor. While it is difficult to state with certainty that pleurisy originates in perfectly healthy persons, because latent pathologic lesions cannot be appreciated, yet we know that it does occur in persons who to all appearances, to themselves and others, are in good health. M. Sée¹ maintains that the etiology of acute pleurisy is always microbic; in fact, that it is a bacterial disease; cold is simply a stimulus to the activity and development of the microorganisms.

M. Jaccoud² is of the opinion that in the human body many kinds and many thousands of microorganisms live in peace and harmony together so long as the functions are normal, but let a disturbing element arise, such as taking cold, and their physiologic relations become altered, so that they soon are hostile to each other and cause disease. Netter³ claims that all forms of pleurisy are of microbic origin, but that the microbes producing them are of many different kinds.

M. Bechamp⁴ says: "Microbes do not have so much importance in acute pleurisy as some would have them." He is certain that pleurisy may exist independently of tuberculosis, from the fact that at the age of thirty he was seized with acute pleurisy, and after the usual bleeding, blistering, and purging, he now, at the age of seventy-six, is still alive, and has not developed tuberculosis. In support of this, both he and Dieulafoy state that, in many cases, persons live ten, fifteen, and more years after the operation of thoracentesis, and do not develop tuberculosis.

That exposure to cold has a tendency to excite inflammations, and with them acute pleurisy, is no doubt true. Whether its influence is exerted through the nerve-centers, so as to directly cause pleurisy, or whether it acts simply as a stimulus to organized

germs through whose activity the disease originates, is still a much-mooted question. M. Tresbot¹ does not doubt that acute pleurisy in horses is the direct result of an exposure to cold, especially when, after a long, hard drive the animal is allowed to stand unprotected and exposed to a chilling wind. He says that "ordinarily there is nothing in common between sero-fibrinous pleurisy in the horse and tuberculosis;" and also that "it is impossible to class sero-fibrinous pleurisy in the horse with an eruptive fever, or, indeed, with any periodic disease." On the other hand, M. Lancereaux² asserts: "Pleurisy should be rightly classed among the infectious maladies, and exposure to cold is nothing but an occasional exciting cause, while the action of the infecting agent still escapes us."

If we should accept the pathologic views of M. Guerin,³ we might easily explain the causation of the congestion of the bloodvessels by peripheral irritation, and reflex action of the vasomotor nerves from exposure to cold. This, however, does not explain why such excitement should be directed particularly to the pleura.

In a paper on "The Cause of Syncope in Pleurisy," M. La Borde⁴ has illustrated by experiment on animals that it is possible to produce a sero-fibrinous pleurisy in a few hours by the action of cantharidin injected into the blood. This leads me to ask the question, Is the causation of acute primary pleurisy ever, in a measure, governed by the ingestion of certain articles of food, taken just previously to an exposure to cold, *i. e.*, is the combination of the two forces sufficient to direct the action of inflammation toward the pleura?

The cause of acute purulent pleurisy is probably of microbic nature. Purulent pleurisy either begin as such, or are secondary to other diseases. Age and debility have much to do with the formation of pus, the young and aged being more susceptible to empyema. It is doubtful if simple sero-fibrinous pleurisy are ever transformed into the purulent form without the aid of outside interference.

Secondary pleurisy occur from a variety of causes, mostly from diseases microbic in origin.

While it may be rare to have pneumonia occur without some localized extension of inflammation to the pleura, it is doubtful if a general acute pleurisy, secondary to pneumonia, can be found without numerous pneumonia-cocci. In the same manner, the causation of pleurisy during an attack of typhoid fever, influenza, malarial fever, rheumatism, and kindred diseases, is undoubtedly due to the same influences that govern the coëxisting disease.

¹ Bulletin de l'Académie de Médecine, May 10, 1892.

² Ibid., June 7, 1892.

³ British Medical Journal, June 7, 1892, p. 793.

⁴ Bulletin de l'Académie de Médecine, May 17, 1892, p. 758.

¹ Bulletin de l'Académie de Médecine, May 17, 1892.

² Ibid., May 3, 1892.

³ Loc. cit.

⁴ Bulletin de l'Académie de Médecine, May 17, 1892, p. 709.

It is well known that pleurisy of an acute type may be secondary to tuberculosis; but there is considerable difference of opinion as to the proportion of cases arising from this source. M. Sée¹ claims that 68 per cent. of all pleurisies are due to this cause. This seems high, or else persons radically recover from tuberculous pleurisy more often than from any other form of tuberculosis. Dr. G. G. Sears² reports four hundred and fifty cases of pleurisy, of which 39 per cent. developed tuberculous disease. Others state that not more than 20 per cent. of pleurisies are tuberculous in origin. The differences, probably, lie in the particular train of cases various observers have met.

There is, however, no doubt that a certain number of cases of tuberculosis have their initial symptom manifested by an attack of acute pleurisy.

SYMPTOMATOLOGY.—M. Lancereaux and other French observers believe acute pleurisy to be a well-defined cyclic malady,³ because its lesions are always found unchangeable, and its evolution is as constant as that of pneumonia or of typhoid fever. It presents regular pathologic changes after each seventh day, and this fact allows a classification of the disease into three periods of evolution.

First: Seven days represent the time occupied for the increase of the pathologic lesions, at the end of which the effusion reaches the limit of its advance.

Second: The next seven days represent the time during which the pathologic lesions appear to remain stationary, and the effusion has not undergone any perceptible alteration in amount.

Third: From the fifteenth to the twenty-first day of the disease there takes place an absorption of the inflammatory products, including the effusion. These divisions, of course, cannot be made absolute, because individual cases differ among themselves; thus we all know that fluid-accumulations often completely fill the pleural cavity before the expiration of the first seven days, and when withdrawn reaccumulate; however, we may confidently expect at the end of the first period that in uncomplicated cases there will be no further effusion of fluid.

Each of these three stages has its respective symptoms, but they pass from one to the other without any pronounced expression of change.

In a majority of cases the first period of acute pleurisy is ushered in with a chill, announcing a greater or less rise of temperature, and accompanied with more or less pain in the affected side.

The pyrexia will generally determine the intensity of the inflammation; it seldom rises above 102° or 103°, unless the pleurisy is secondary to some

other disease. Pain, which appears with the pyrexia, may begin as soreness in a circumscribed spot and progressively increase to an unbearable intensity; or it may at first be sharp and lancinating, at or below the nipple, from which point it becomes more or less diffused. The pain is increased on motion, and, for this reason, respiratory efforts are, so far as possible, restrained. A dry, hacking cough is generally present, but the pain it occasions calls for efforts at its suppression. After a few hours, when the effusion appears, the pain is moderated and gradually disappears, or its intensity is greatly diminished. The pulse is increased in frequency and generally firm, the rate varying between 100 and 120. As the disease progresses, dyspnea is often developed, and this may be due to several different causes. It may indicate abundant effusion, and be due to compression of the lung or displacement of the heart; it is most commonly a result of one of these. Again, it may be due to congestion of the lungs independently of compression. Edema of the lungs, capillary bronchitis, and rheumatic difficulties sometimes occasion dyspnea when very little fluid can be found in the cavity. Encysted pleurisies occasionally cause pain and dyspnea. Irregularity of the pulse and cyanosis are grave symptoms, largely dependent on displacement or weakness of the heart. Syncope may also be occasioned in various ways; the reflex action of pain is one of its chief causes, as we may often produce it artificially by electrifying some peripheral sensory nerve. Again, when the fluid fills the pleural cavity and is suddenly drawn entirely away, the reaction that follows may cause syncope.

PHYSICAL SIGNS.—These vary with the quantity rather than quality of the effusion. In the early stages of the disease they often establish the diagnosis, and in the later stages they determine the amount of liquid in the cavity of the chest. On inspection there is in the early stages restricted motion of the affected side, dependent at first on the amount of pain, and later on the accumulated fluid. The comparison with the sound side is very striking. In left-sided effusions there may be displacement of the heart beat to the right of the normal, and when large effusions occur on the right side, displacement is sometimes to the left. On palpation, vocal fremitus is lost over a collection of fluid, and if the effusion is large on the right side, the liver may be felt to be displaced. On percussion, we may early find dulness over the lower posterior portions of the chest; this dulness gives place to flatness as the effusion appears and advances; above the fluid the percussion-note remains dull, while at its level, and below, it becomes flat. It will be remembered that the level of the fluid is not a hydrostatic one; but from the elasticity of the lung the level assumes a shape

¹ Bulletin de l'Académie de Médecine, April 19, 1892.

² Boston Medical and Surgical Journal, Feb. 25, 1892.

³ Bulletin de l'Académie de Médecine, May 3, 1892.

resembling the letter S. Over the sound lung the vesicular resonance is more or less exaggerated. Dulness is likely to remain for a considerable time after the effusion has been absorbed. On auscultation, the respiratory murmur is enfeebled or absent, for the same reasons and in the same progressive manner as the loss of resonance on percussion occurs. Friction-sounds are sometimes heard at the beginning of the disease, but are more common at the close of the third stage. Some observers have indicated that the transmission of the whispered voice, or its absence, has direct relation to the diagnosis of serous or purulent effusions, but this is doubted by others.

No lengthy discussion of the physical signs of acute pleurisy is necessary here; these do not differ from their description as set forth in our modern text-books.

TREATMENT.—In considering the treatment of acute pleurisy we must recall the classification of its etiology, viz.:

First: Those cases that are dependent on some other disease for their cause, whether influenced by microbes or not, and hence are secondary pleurisies.

Second: Those cases that are of spontaneous origin, considered idiopathic, and hence are called primary pleurisies.

Physicians may likewise be divided into classes: those who consider pleurisy to be always a microbic disease, and those who do not.

In a recent discussion on this subject the eminent French author, Hardy,¹ said that acute pleurisy of sero-fibrinous nature was no better treated to-day than it was fifty years ago, and, except in purulent forms, no better results were obtained now than then, the death-rate at present being 10 per cent., the same as in the days of our forefathers. This statement may be astonishing to some of us who have been taught to look upon acute pleurisy as a not very fatal disease; however, some statistics would seem to bear out this opinion. Perhaps it would, therefore, be well to consider the modern methods of treatment and then compare them with those practised in the early part of the century.

To undertake the consideration of all the medications for pleurisy that have been launched upon us during the past few years would take more time and space than would be profitable for me to employ; suffice it to say that a majority of them have passed into disuse.

The modern medical treatment of acute pleurisy is by the following class of agents: First, by antiseptics, to combat microorganisms; second, by antipyretics, to combat fever; third, by evacuates, to eliminate the fluid.

Dr. Charles Talamon¹ has recently called attention to the action of sodium salicylate in pleuritic effusions, claiming for it the power of promoting rapid absorption of the fluid. He thinks it has a direct action on the inflamed pleura, because by the experiments of Rosenbach it is proved that the salicylates may be found in the serous cavities of the body after their ingestion by the mouth in doses of from ten to twenty grains. Whether the beneficial action on the fluid is due to the antiseptic nature of the agent, he does not state, and whether it is due to this or its diuretic action is still an open question. That sodium salicylate may be of use when the pleurisy is secondary to rheumatism there can be no doubt, but in the primary form to depend on its success as a germicide would be hazardous. However, the salicylates may be employed as antipyretics as advantageously as other remedies; they certainly combine the indications for an antiseptic, antipyretic, and diuretic.

The practice of injecting a solution of salicylic acid or other antiseptic into the pleural cavity to combat microbes in the effusion has been suggested by some, but the treatment seems harsh and uncalled for, unless employed in connection with surgical methods for the treatment of empyemas.

Antipyretics in acute pleurisy are only indicated when the fever rises to 101° or over, and as the fever seldom attains that height for any length of time their use is greatly modified.

Quinine may be advantageously employed in pleurisy depending on malarial poisoning, and during convalescence, as a tonic. Antipyrin, or the other coal-tar derivatives, may be useful in cases accompanied by hyperpyrexia, but none of these measures is calculated to reach the cause of the disease, or to modify its pathology.

The evacuates are administered in acute pleurisy with a view to reduce the amount of effusion after its accumulation.

Under this head, the diuretics play the most important part. Digitalis may support a weak heart, but its action in reducing a pleuritic effusion is small. Milk is often used as a diuretic, but its influence over fluid in this disease is doubtful; while as a food it ought not to be neglected.

The action of purgatives, drastic or saline, and of sudorifics, with a view to reduce the quantity of liquid in the chest, is of no value; moreover, they are often dangerous.

The pleuritic effusion is not really a question of hydropsy; the liquid of general ascites furnishes a chemical analysis quite different from the effusion of pleurisy; the latter is not simply a serum from the blood, but blood-plasma.

¹ Bulletin de l'Académie de Médecine, May 1, 1892, p. 776.

¹ New York Medical Journal, January 2, 1892.

In a recent paper on "The Treatment of Pleuritic Effusion," M. Sée¹ draws the following conclusions: "Antiseptics, diuretics, sudorifics, and purgatives, drastic or saline, have no kind of action on the effusion. Milk, which is a powerful diuretic, has no value here, except as a food. No one of these microbic diseases derives the least benefit from venesection. All aggravate the onset of the disease. Expectation is the only rational method of treatment, for sero-fibrinous pleurisy regularly passes through its different phases in two or three weeks, and up to that point all medication is useless." In a recent paper on this subject, M. Lancereaux² says: "There is no more use in trying to ward off pleuritic fever than to ward off pneumonia or typhoid fever; however, it is necessary, relying on our pathologic knowledge of the lesions of acute pleurisy, to draw attention to the coagulation in the lymphatic system, and strive to remove it; while we may not succeed, it is the best practice to try."

In discussing the subject, M. Guérin³ says: "This idea of pleurisy being a simple lymphangitis also gives a clear explanation of the sudden reabsorption of fluid in some cases that for a long time have proved refractory to all treatment. It indicates that the coagulum in the absorbent vessels has become reabsorbed and makes it possible for the fluid to be taken up; we should therefore attempt the prompt moderation of the lymphangitis."

Of late, in the excitement of bacteriologic investigations, the profession had been content to disregard the teachings of our ancestors, and the good old methods in vogue at their time. We have regarded these diseases as cyclic in nature; maladies that must run their regular course in spite of all abortive treatment; sicknesses that are caused by micro-organisms over which we have no control; hence, we must fold our hands and content ourselves with relieving of pain, until such time as the particular germ has loosened his besieging grasp.

This is the "expectant treatment of to-day, and this is the treatment eminent authorities hold out to us for acute pleurisy." "The expectant treatment," says Peter,⁴ "is the do-nothing treatment, and this is what many bacteriologists practise. No physician has a right to practise inactivity in these cases when so much can be done toward curing pleurisy if energetic treatment is begun early."

To allow a patient to become weakened by pain and suffering, because pleurisy is a cyclic disease and should terminate spontaneously in two or three weeks, or, because the pathologic conditions are such that, by deferring active measures, one may

with impunity puncture the chest and draw off a liter of fluid, is treating the wrong end of the disease. A physician should strive to diminish the intensity of a malady, if, indeed, he cannot shorten its duration.

What are the indications for treatment in acute pleurisy?

Briefly, they are as follows: 1. The relief of pain. 2. The reduction of fever. 3. The arrest of effusion. All of which depends on treating the cause.

It was of these indications our ancestors had a rare knowledge when they applied bleeding and localized vesications; when practised, these at once relieved the pain, reduced the fever, and there was little or no serous effusion found in their cases; moreover, if in this they were not entirely successful, the harshness of the sickness was notably diminished. By these methods the pathologic lesions were affected, and the cause of the pain and fever reached. In 1819, Laennec said: "If a plethoric subject had pleurisy, he required bleeding."

While it is undoubtedly true that the pendulum of exsanguination in inflammatory diseases oscillated too far in the early part of this century, and to the detriment of many, is it not also true that at the present time it has swung too far the other way, and "expectant treatment" is employed to the detriment of many? I believe the antiphlogistic treatment is indicated in just as many cases of acute pleurisy now, as in the days of our forefathers. That the treatment may be carried too far I do not deny; the judicious use of it at the right time is the essential point. Pain is almost wholly relieved by the revulsive methods in a short time; this probably being accomplished by the removal of the congestion and its baneful influences, if revulsion is practised early. At the present time, and in some form, opium is employed for the relief of pain; but does it lessen the congestion causing the pain, or simply dull the sensibility to the pain which is the result of the congestion? Revulsion lowers the fever, for which we now employ antipyretics, but will the antipyretic drugs alter the pathologic condition within the pleural cavity?

Farther on in this disease we often employ puncture of the chest to draw off the fluid, but have we not allowed the malady to reach that point by an early neglect to treat the cause efficiently, and thus converted what should have been a medical case into a surgical one? This certainly is to be deplored. Peter¹ goes so far as to say, that "By revulsive methods, early employed, one is able to prevent the serous effusion in many cases; to arrest it, if the secretion has begun to form, and finally to absorb it, if a small amount has collected." Andral and Bouilland² cite thirty cases in one year, treated anti-

¹ Bulletin de l'Académie de Médecine, April 19, 1892.

² Ibid., May 2, 1892.

³ Ibid., April 26, 1892.

⁴ Ibid., April 26, 1892.

¹ Bulletin de l'Académie de Médecine, April 26, 1892. ² Ibid.

phlogistically, with one death—percentage of mortality of three. Of seventy cases reported¹ in 1891, treated after the modern methods, there were seven deaths—a death-rate of 10 per cent. from acute pleurisy.

How should revulsion be employed in these cases?

Bouilland used to bleed twice and afterward apply wet cups and a large blister. This seems too energetic; yet I have recently been told by an elderly physician of my neighborhood that he once bled a woman with puerperal peritonitis until she fainted, and she had no more symptoms of the disease, and was soon about. One might employ wet cups and vesication more mildly, with equal success. "What is remarkable in these cases," says Peter,² "is the toleration of the system to these large bleedings, the rapidity with which the pain ceases and the local symptoms of pleurisy diminish." On the other hand, "Bleeding," says Sée,³ "after doing so much harm, is springing up again insidiously in many diseases; it has no theoretic basis, and is little better than empiricism."

Can we learn anything from Nature as to the treatment of acute pleurisy?

There is pain from irritation of the intercostal nerves, due to the evolution of pathologic processes. Nature, in consequence of this inflammatory action, evolves a fluid which acts as a sedative to the injured nerves, and, little by little, the pain subsides. The fluid comes from the blood. This fluid is found to be exactly like the plasma of the blood, except in proportion; is it, therefore, not natural to assume that Nature bleeds her patient in the early stage of pleurisy? To be sure it may be the result of a congested condition, and, hence, one of pathology rather than one of treatment; nevertheless it depletes the vascular system, which, if we anticipate Nature by doing ourselves, we thereby arrest the pathologic condition and relieve Nature.

Regarding the application of blisters, there is a diversity of opinion, although it is generally held that they are useful adjuvants to scarification.

Metschnikoff advances the idea⁴ that cantharides possesses an anti-bacterial tendency, and produces leukocytes which act as phagocytes, and proceed to destroy or change the character of the microbe. He would, therefore, inject a solution of cantharidin subcutaneously. Tresbot⁵ has no doubt that a cantharides blister is of great value in the treatment of the pleurisy of horses. La Borde,⁶ while advocating the use of cantharides blisters, calls attention to the fact that this agent is a poison, and capable of producing inflammation of the lung, bladder, or other viscus, and cautions against its

use. There has been some belief that cantharides predisposes to the transforming of serous effusions into purulent ones, and especially in tuberculous patients. Potain denies this,¹ or the possibility of its happening, and maintains that a purulent effusion always starts as such. Counter-irritation may also be effected by the tincture of iodine painted on the surface of the affected side. Little in addition can be said of the treatment of purulent pleurisy prior to surgical interference, which is almost always required.

There is no positive way to differentiate them from the serous varieties, except by explorative puncture, but the indiscriminate use of the exploring-needle, ten or a dozen times, as recommended by some,² in search for pus, is to be condemned, even if no harm should chance to arise.

It is in childhood and old age that purulent pleurisy is most likely to occur. Why this is so, unless from a weaker state than is present in adults, is not easily determined; but in the treatment of this affection in children, this fact is to be borne in mind.

THORACENTESIS.—This operation, though always to be deplored, is often urgent and often useful. A discussion of its history, which may be found at length in *Pepper's System of Medicine*, is unnecessary in this place. Of late there has been much criticism for and against the operation by eminent authorities. That aspiration, as first practised by Bowditch, and later elaborated by Dieulafoy and others, is a simple, harmless operation, there can be no doubt; results will bear this statement out. All that is essential to the safety of the operation is thoroughly aseptic instruments, especially the aspirating-needle, and also some little skill in manipulation.

Thoracentesis, as practised by the majority of general practitioners, with any kind of trocar, which may have been used by them to open some abscess-cavity, or even with an aspirating apparatus that has not been perfectly cleansed, is a very dangerous operation.

It has been held by some that after the operation has been performed two or three times it produces a transformation of a sero-fibrinous effusion into a purulent one. This may be so; I do not deny that it often happens, but it is the operator and his unclean instruments that are at fault, rather than the effect of a puncture of the pleura; this is the reason we see one operator successful where another meets with failures.

As a rule, aspiration should not be performed in simple sero-fibrinous pleurisy until after the third week of the disease; and then only as the fluid tends

¹ Bulletin de l'Académie de Médecine, April 26, 1892.

² Ibid.

³ Ibid., April 19, 1892, p. 97.

⁴ Ibid., p. 602.

⁵ Ibid., May 17, 1892.

⁶ Ibid.

¹ Bulletin de l'Académie de Médecine, May 17, 1892.

² Archives of Pediatrics, May, 1892, p. 353.

to remain stationary and unabsorbed, unless there is urgent need of interference to save life before that time. If the cause of the non-absorption of the fluid is (according to the views of Lancereaux) a stoppage of the lymphatics of the pleura by the formation of fibrinous thrombi in their orifices, and if we must wait until a disintegration of the clot takes place before the fluid will be absorbed, then no amount of aspiration will hasten the process of natural absorption until that time has expired. Moreover, the drawing off of the fluid will in many cases only tend to its reaccumulation up to the point it previously reached, because, according to his theory, if the fluid remains stationary to a given level or height within the cavity of the chest, there must be stoppage of all the lymph-spaces below that level; hence, no absorption is possible. If, then, we remove a part or the whole of the fluid, we do not necessarily remove the stoppage, and the reaccumulating fluid will in time reach its former height.

On the other hand, if, before practising thoracentesis, we wait until the disease has reached that period when we may expect these clots to be disintegrating and being taken up by the system, we then may be of some service to Nature in hastening absorption. This period is at about the end of the twenty-first day of the disease. However, there are times previous to this period, when life is threatened by the accumulation of fluid in the pleural cavity to such an extent that it compresses vital organs. When this occurs, it becomes necessary to draw off a certain amount of fluid by aspiration, in order to relieve distressing symptoms.

By what symptoms can we know that this danger is imminent?

When the fluid-accumulation has progressed to the extreme degree, there is dyspnea, from compression of the lung; more or less cyanosis, if the heart be displaced; flatness on percussion over most of the affected side, and sometimes accompanied with bulging of the intercostal spaces. However, if we wait for these symptoms to appear, there are strong dangers of being too late to render the assistance necessary.

There is in these cases no infallible sign by which we may discover the best time to operate.

Dyspnea, as we know, may be due to other causes than compression of the lung or displacement of the heart, and consequent twisting of the large arteries by fluid. Cyanosis and syncope are signs that may arise from hearts weakened by excess of pain, with little mechanical interference from an effusion into the pleura.

The most reliable test is by percussion; as by it we may arrive at an approximate estimate of the quantity of fluid contained in the pleural cavity. When the line of flatness has reached the second rib

on either side of the chest, the left or right, Dieulafoy estimates the quantity to be about 2000 grams, and states it is time to operate. If, with this percussion-sign, there is dyspnea and some cyanosis, it is time to hasten the operation; as, while it is not right to puncture the chest too early, it is also hazardous to postpone the operation too long.

If, as often happens after early operative interference, the fluid should reaccumulate more or less rapidly, and the symptoms of distress reappear, a second operation would be imperative, and probably later on others would necessarily follow.

Only so much of the fluid should be removed in these cases as will render the patient more comfortable from the distressing symptoms, or remove any danger of immediate collapse. Sudden death has followed the removal of the entire amount of effusion at once, death being due to the congestion occurring from the sudden return of the compressed and distorted viscus to its normal position. A symptom of this danger is said to be the albuminous expectoration observed in these cases. The fluid should therefore be withdrawn gradually through a fine needle, and not more than a third, or perhaps a half, of the total quantity of fluid in the chest-cavity be removed at once. It is better to perform the operation several times in this manner than to have a fatal issue from the evacuation of too great a quantity of liquid at once.

In purulent pleuritis no time should be lost in evacuating the pus, observing the same precautions necessary, if by aspiration, as in serous effusions. In children with purulent pleuritis, repeated aspirations are advisable before resorting to more severe surgical methods; but in adults, if a reaccumulation of pus occurs after one aspiration, it is usually better practice to treat the empyema as one would an abscess-cavity and establish a system of free drainage. As these several methods of drainage come strictly under the head of chronic pleurisy, I shall not occupy more time here with a discussion of them.

Finally, I wish here to suggest a method of treatment for pleuritic effusions that I must frankly state is at present a simple theory, because I have not had the time or opportunity to clinically test its value. It is the employment of electrolysis to cause absorption of pleuritic effusions, based on the same theories as when it is used in serous effusions elsewhere. In a word, the operation might be called "electrocentesis." I have not found that any literature on the subject has ever been published—or ever ought to be published; however, electrolysis, as we know, has been employed quite commonly in serous effusions of other localities, such as cysts, hydrocele, tumors, etc., with great benefit in many instances. Why should it not be used with benefit in the serous effusion of pleurisy?

Electricity is used to hasten the absorption of fluid in cysts; first, by its power to chemically transform the watery into gaseous elements; second, by its direct stimulating influence on the lining membrane of the sac.

Is there any reason to expect any different results from the use of electricity, in a similar manner, in pleuritic effusions?

The technique of the operation recommended includes the use of the electro-puncture needle, thrust into the effusion; a clay electrode attached to the negative pole of a galvanic battery, and placed on the outside of the chest-wall. A current of a strength of from 30 to 50 milliamperes, and perhaps more, could be safely passed through the fluid in this manner. Care should be taken that the needle be not thrust farther than just into the fluid, so that we get only electric action on the effusion and the costal pleura, otherwise we might electrify some vital organ in a manner not pleasing. From this application of electrolysis we might reasonably expect more or less coagulation of fibrinous matter and absorption of the fluid portions of the effusion. This we might expect to be in proportion to the strength of the current, and the length of time occupied in allowing the current to pass through.

The class of cases this method of treatment would probably benefit would be those in which thoracentesis for any reason could not safely be performed; those in which there has been repeated reaccumulation of fluid after aspiration, especially those of chronic tendencies; and, finally, those of secondary nature, particularly the tuberculous.

All antiseptic precautions usually necessary in any such operation should, of course, be observed.

ANTISEPTIC CATAPHORESIS IN THE TREATMENT OF DISEASES OF THE UTERUS AND ITS APPENDAGES.

BY WALLACE A. BRIGGS, M.D.,
OF SACRAMENTO, CAL.

"MEDDLESOME gynecology" and "uterine tinkering" are getting to be set phrases with those who seek to envisage gynecology as a branch of operative surgery. Emerson I believe it was who said, in substance, that one truth cannot be stated strongly without doing injustice to some other truth. But the surgical exclusivists are not content with stating their truth strongly; they stoutly maintain that there is no other truth. The blind spot that Holmes says is normal to all of our brains no longer remains with them a spot merely, but invades whole convolutions, if not the entire anterior lobe of the cerebrum. For them the "sensitiveness" of the uterus exists as a reality instead of a myth, like "sensitiveness" of the peritoneum, dissipated by cleanliness

and antiseptis. By their "damnable iteration" many of us have come to believe that the knife constitutes our entire gynecologic armamentarium. In consequence, abdominal surgeons, like the men of Roderic Dhu, spring from every cover, fully equipped to do the liveliest execution. I protest against this opinion and this practice. I deny that it is the *summum bonum* of woman to be relieved of the intrinsic insignia of her sex. We are indeed too often reduced to the sad and humiliating necessity of such mutilation, and so are we to that of amputations of legs and arms; but the world believes that amputations are to be averted rather than courted, and so it will soon believe of celiotomies. It is no less the duty of the physician to obviate the necessity of sacrificial operations than to perform them when indicated.

Rational methods of treatment, then, that propose a *restitutio ad integrum* of diseased organs and a coincident prophylaxis of disease by extension to important adnexa may not be contemptuously dismissed as "uterine tinkering." Such a method is the antiseptic treatment of endometritis.

In the report of the Committee on Gynecology of the Medical Society of the State of California for the current year, of which an abstract appeared in the May number of the *Occidental Medical Times*, I described this method somewhat in detail, and it is my purpose here to invite attention to one element only of that method, viz.: antiseptic cataphoresis.

It need not be assumed, for it has been demonstrated by the history of gynecology, the record of therapeutic groping and wandering in a pathologic dark continent, that the uterus is tolerant of everything but infection. Against infection in the treatment of diseases of the uterus and its appendages antiseptic cataphoresis appears the most positive and efficient safeguard.

As quoted by Thomas, Scanzoni says that he does not remember to have been able to cure a single case of abundant uterine leukorrhea of several years' standing. In the treatment of these cases, who has not exhausted every resource of the healing art, as well as the forbearance of his patients, who have at last departed for "fresh fields and pastures new," uncured and ungrateful?

How shall we explain the inveteracy of these cases? The investigations of Bumm have shown that the gonococcus is endowed with an "eminent invasive force." It penetrates both the epithelial and sub-epithelial tissues. In the case of a moribund paralytic, Bockhart has demonstrated that it invades the lymph-vessels and even the capillary bloodvessels, and, although his conclusions have been warmly controverted, I am inclined to accept them, not only because of their intrinsic probability (for we should expect less resistance from the tissues

of a paralytic inoculated at death's door than from the tissues of those who acquire gonorrhea in the usual way), but also because they afford a rational explanation of the occasional development of so-called gonorrheal rheumatism. In cases of metritis Peraire found in the mucous tissues and in the tissue-cells the same microorganisms as in the uterine secretions.

We need seek no further, I think, for an explanation of the monotonous futility of the applicator and the comparative efficiency of the curette. The chronically inflamed uterus may be not inaptly likened to a chronic abscess communicating externally by a long and tortuous sinus. To effect a cure, the mucosa of the former, like the walls of the latter, must be either disinfected or destroyed. Without in the least disparaging the curette, it may be said that the true spirit of medicine would incline us *ceteris paribus* to conservative rather than sacrificial procedures; to disinfection rather than destruction.

In the uterine cavity the applicator is a useless and dangerous instrument. While it does not disinfect either the walls or the cavity, it does produce abrasions that may be the point of departure of new and serious trouble. If thoroughly done, antiseptic cataphoresis obviates this danger absolutely. It disinfects not only the cavity, but also the mucosa of the uterus and produces important interpolar effects on the uterine and pelvic circulation and nutrition that are daily demonstrated clinically and yet are pronounced a figment of the imagination by those who, in electro-therapeutics, prefer intuition to experience.

Before proceeding to the consideration of the various conditions in which antiseptic cataphoresis is indicated, it may be well to describe the technique of the procedure itself. I have used several antiseptic solutions or electrolytes of which iodine in varying ratio, either in combination or in solution, is an essential constituent.

They are all efficient, but having observed two cases of severe frontal headache following the use of the stronger solutions of iodine, I have latterly used the weaker ones more frequently, although not exclusively. Either of the following solutions will be found satisfactory: beechwood creasote or camphor-creasote, 10; iodine, from 1 to 2; beechwood creasote or camphor-creasote, 10; sodium iodide, 0.5; iodine, from 1 to 2.

The patient is put in the semi-prone position, which facilitates the introduction of the electrode and the escape of gases developed by electrolysis. A self-retaining speculum is introduced, the vagina and cervical canal are cleansed, and the direction and size of the latter ascertained. If the canal of the cervix be not large enough to permit the ready

passage of the electrode and the simultaneous reflux of uterine secretions, redundant electrolyte and electrolytic gases, it should be sufficiently dilated either with Hegar's bougies or with a pair of strong dressing-forceps.

The active surface of the combined intra-uterine syringe, applicator, and electrode is then wrapped with a thin layer of absorbent cotton, into which a small but strong thread is wound and left loose about the shaft of the instrument, for the purpose of withdrawing the cotton should it slip from the electrode and remain in the uterus. The anterior lip of the cervix is then seized and fixed with a small tenaculum, the electrode dipped in the antiseptic electrolyte, passed through the cervix, gently turned either to right or left, and carried well into one cornu. The conductor is now attached, and the current is turned on and slowly carried to the maximum desired. The electrode is allowed to remain in the cornu from one to three minutes, while from three to six or eight minutes are occupied in sweeping it across the fundus to the opposite cornu, where it remains again from one to three minutes, when the current is turned off and the electrode removed. During the passage of the current the electrolyte is injected, drop by drop, until from 5 to 10 minims have been introduced.

The applications of antiseptic cataphoresis in gynecology are numerous, and I shall now briefly consider those that I have found preferable to the treatment usually employed.

Chronic metritis, chronic endometritis, subinvolution, cervical endometritis, and cervical erosions are classed together because of the similarity of their origin, pathology, and treatment. It is probable that metritis and endometritis rarely exist as separate and distinct diseases, but that each ordinarily accompanies the other, and when predominating gives name and characteristics to the dual affection. Endometritis would seem to be the primary disease which by extension produces and by persistence maintains an inflammation of the uterine parenchyma. Subinvolution is the product of uterine infection engrafted on the puerperal condition. All of the affections here grouped together are of infectious origin, and in all of them the uterine cavity and the mucosa are the breeding-ground of the infectious organisms. Cure is to be effected by the removal, first, of the cause of the disease, and secondly, of the results. Disinfection, then, complete and permanent, constitutes the causal treatment. For this purpose, nothing in my experience compares with antiseptic cataphoresis, which may be used when perhaps any other form of local interference might not unjustly be termed "meddlesome," as the history of the following cases will indicate:

Mrs. S. came to my office April 23, 1892, complaining of profuse leukorrhea, of pain in the pelvis and back, and of supra-pubic tenderness. She was unable to be on her feet for any length of time, and had given up her position of housekeeper, because unable longer to perform its duties, and had spontaneously taken to bed, where she had remained most of the time for the previous week. Rest had given her little relief, and she was barely able to get to my office—just a square from her room.

The uterus was found swollen, tender, retroverted, and discharging a large quantity of muco-purulent secretion. A circular erosion of the cervix, about an inch in diameter, surrounded the os. The adnexa were tender, although no evidence of purulent accumulation could be discovered.

Positive antiseptic cataphoresis was practised every third day, and antiseptic packing every day from this date until May 24, 1892. Constant and rapid improvement was manifest from the first application, and on June 1st, while there was still a slight mucous discharge from the cervix, the subjective symptoms had disappeared entirely, and the patient went to work in a hotel, where she made sixty beds daily, besides doing much other chamber-work. She has reported twice since, looks and feels well, and continues at her work.

Mrs. P., housekeeper, sent for me May 10, 1892. She had been suffering for three or four months with profuse leukorrhea, menorrhagia, pain in the pelvis and sacral region radiating down the thighs, becoming so severe at the menstrual periods or on exertion as to keep her in bed. The uterus was sensitive, swollen, and retroverted. A profuse muco-purulent discharge was issuing from the cervix. The perituterine tissues were so tender as to give rise to the suspicion of perimetritis. Under phenacetin and bromide, however, the pain subsided and the patient was able to ride to the office on May 16th. The uterus was tender and the discharge unabated. Positive antiseptic cataphoresis (40 m.a. 10 minutes) was employed and repeated every third day until June 15th. Immediate and rapid improvement was manifest, and on June 25th the metritis had wholly subsided, and the patient, although retaining the displacement, considered herself well, and was discharged.

SALPINGITIS.—Schroeder believes that salpingitis is always secondary to endometritis, and that the mucosa furnishes the only pathway of infection. That this rule is liable to exception is probable, but that it holds true in a great majority of cases is certain. As in the treatment of Eustachian inflammation we find it of the utmost importance to cure a coincident and predisposing pharyngitis, so it is of equal importance in the treatment of salpingitis to cure the predisposing endometritis. Negative antiseptic cataphoresis meets the indication in these cases better than any other means with which I am acquainted. Negative cataphoresis is to be preferred, because it promotes drainage and depletion, which, on the contrary, positive cataphoresis rather hinders.

Antiseptic drainage and depletion of the uterus diminish the inflammatory swelling about the tubal orifices and thus facilitate drainage of the tubes and consequently their restoration to a healthy condition.

If carefully and thoroughly practised in appropriate cases I can conceive of no danger whatever attending negative antiseptic cataphoresis in tubal inflammations after the subsidence of acute symptoms. In cystic salpingitis, whether purulent or not, one would naturally incline to extreme care, if not to absolute non-interference except *per abdominem*, but even here I believe that the dangers of the usual electric treatment have been greatly exaggerated by the surgical exclusivists. Antiseptic cataphoresis may be employed with less local disturbance, and consequently less danger of rupture of the distended tube or extrusion of pus, than attend defecation; yet no one locks up the bowels to obviate this danger.

In the treatment of salpingitis, however, negative antiseptic cataphoresis possesses other advantages. By the cure or amelioration of the endometritis, the likelihood of reinfection of the tubes is diminished, and, in case surgical intervention prove necessary, the physician will not be humiliated and the patient disheartened by seeming failure of the operation due to a residual metritis. Moreover, it is frequently difficult and sometimes impossible to determine how much of the suffering is tubal and how much uterine. Cure of the metritis will solve this difficulty and not rarely save the patient from the well-meaning but intemperate celiotomist. By this method I have treated three cases of salpingitis, two of gonorrheal and one of unknown origin. Of these, one is objectively cured, although she still complains of occasional and slight pain in the region of the left tube; one received but three treatments, declared herself better, and, against my protest, took a journey of a hundred miles by rail—with what result I have yet to learn; the third, of unknown origin and long standing, received four applications, without any noteworthy result, when the treatment was interrupted by my absence, and the patient has not yet returned. In none of these cases was there the slightest untoward symptom in consequence of the treatment.

UTERINE FIBROIDS.—The brilliant results of electric treatment of intra-mural and submucous uterine fibroids have not exempted it from the reproach of an occasional catastrophe. Such catastrophes, however, were very infrequent even in the tentative period of Apostoli's work, and have all but disappeared under an improved technique. I believe that they may be reduced to an absolute minimum by the adoption of antiseptic cataphoresis in conjunction with the precautions usually observed. Why,

it may be asked, are we, in these cases, to disinfect the vagina and cervix and not the uterine cavity itself? Such "disinfection" is ordinarily mere show without substance; for in the first place, microorganisms by prolonged residence in the vagina become "domesticated" and, in a large measure at least, innocuous; and in the second place, pathogenic microbes swarm not only in the uterine cavity, but also in the tubes, in many if not in most cases of advanced fibroid disease. One of the chief benefits of Apostoli's treatment of uterine fibroids is the cure or relief of a coincident metritis. This it would seem, in most cases, constitutes the so-called symptomatic cure. Antiseptic cataphoresis hastens this cure. In addition, it is not at all improbable that by its means remedies may be introduced that will have a regressive influence on the neoplastic tissue. In practice I have used this method sufficiently to be convinced of its superiority, but not to enable me to speak with positiveness as to how much it may accomplish.

DYSMENORRHEA.—Dysmenorrhea depends on a variety of conditions, foremost amongst which is the neuropathic diathesis. Many cases, I believe, are essentially reflex neuralgias akin to trigeminal neuralgia due to exposure of the dental nerve. Here we shall very often find a catarrhal condition of the endometrium and hyperesthesia, especially at the internal os. It is true, as I can testify from my own experience, that excellent results may be obtained by the usual electric treatment. This, however, is inferior to cataphoresis in two respects—the absolute immunity to infection and the speedier relief of the endometritis.

CONCLUSIONS: 1. In the inflammatory diseases of the uterus and its appendages and in uterine fibroids, antiseptic cataphoresis possesses all the advantages of the usual electric treatment, plus antiseptics not only of the uterine cavity but also of the endometrium itself, and, in uterine fibroids, the possible regressive influence of medicinal remedies on the neoplastic tissues. 2. In these diseases it should displace the applicator, injections, caustics, bougies, and all other forms of intra-uterine treatment, with the rare exception of curettage.

ICE IN THE TREATMENT OF CROUPOUS PNEUMONIA.

BY THOMAS J. MAYS, M.D.,

PROFESSOR OF DISEASES OF THE CHEST IN THE PHILADELPHIA POLYCLINIC, AND VISITING PHYSICIAN TO THE RUSH HOSPITAL FOR CONSUMPTION.

UNDER the title, "Can Croupous Pneumonia be Aborted?" I contributed a paper to THE MEDICAL NEWS of September 24, 1892, in which are given the histories of two cases of pneumonia treated principally with applications of ice to the chest. Since that

time I have used the same method of treatment in a number of other cases, with equal success, and have considered the subject of sufficient importance to institute a collective investigation on a small scale by sending 500 circulars of inquiry¹ to as many members of the profession, so as to ascertain whether my experience with ice in this disease has been or may be disproved or confirmed. I have already received a number of responses to my circulars, which I shall prepare for publication in due time; but before doing so, and in order to make my collective report as full and as conclusive as possible, I am anxious to correct, so far as I am able, the false and unreasonable prejudice that exists against the application of cold in pneumonia—a feeling that I shared myself until I gave the plan a trial—and shall herewith communicate a history of one of my recent cases, the treatment of which has just closed, and which, on account of its interesting course and termination, will, I trust, aid in removing this serious obstacle to the more general use of what I conceive to be a most valuable remedy.

R., male, aged forty-five, was admitted to the Polyclinic Hospital on December 15, 1892, with the following history: He was taken ill with a pain in his left side five days previously. On admission his temperature was 102.6°, his pulse was 110, and his respiration 30; the countenance was flushed; he was restless and delirious; the sputum was rusty and bloody; he had a dry, black-coated tongue, a pulse intermittent every fourth beat, and the chlorids were absent from his urine. He had been a hard drinker for twenty years. Physical examination showed dulness extending from the apex to the base of the left lung anteriorly, laterally, and posteriorly. The dulness in the upper anterior half of the lung partook of the nature of flatness. The right lung was normal. Anteriorly there was complete suppression of respiratory murmur in the upper half, and crepitation and partial suppression of respiratory murmur in the lower half; posteriorly in the upper half there were a few moist râles, and in the lower half, bronchial breathing.

His whole left chest was enveloped in ice-bags wrapped in dry towels, and ice was applied to his head on the afternoon of the first day of admission. He was ordered $\frac{1}{10}$ of a grain of strychnine every three hours, and $\frac{1}{8}$ of a grain of the same drug hypodermatically morning and evening, ten drops of the tincture of digitalis every four hours, and three ounces of fresh beef-juice alternately with a glass of milk containing a tablespoonful of whiskey every hour.

On the 17th, two days after admission, the intensity of the flatness of the upper half of the lung had markedly diminished, and the respiratory murmur and very moist crepitation were now heard in this area; the crepitation and bronchial breathing in the lower half not materially changed.

¹ I shall be glad to send circulars to any who want or have not received them.

On the 20th dulness had disappeared almost entirely from the lower half, and had diminished very much in the upper half. The last area was now freely permeable to air, and moist crepitation and subcrepitation râles could be heard all over it.

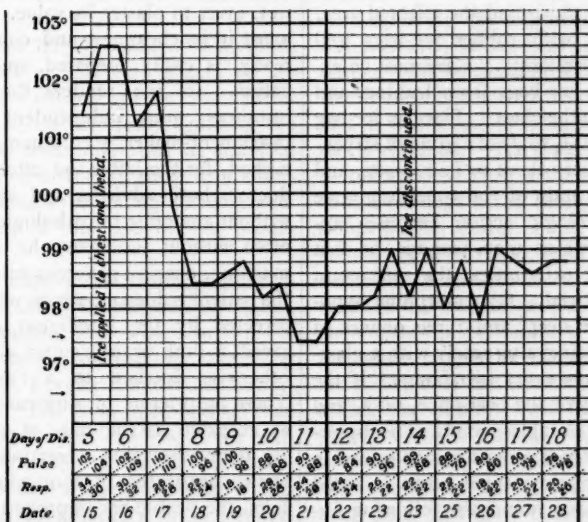
On the 24th the physical signs, except impaired percussion-resonance in the upper half anteriorly, had disappeared, and the ice was discontinued. The digitalis by the mouth, and the strychnine hypodermatically, were also stopped, but $\frac{1}{10}$ of a grain of strychnine by the mouth was kept up three times a day. The beef-juice, milk, and whiskey were continued at longer intervals.

The temperature began to fall on the 16th, the day following the application of the ice, and on the morning of the 18th it was reduced to the normal point, where it practically remained. The sputum continued rusty, bloody, and copious for one week, but the pain and cough subsided soon after the ice was applied. The breathing also became much easier.

On the afternoon of the 18th the low muttering delirium and picking at the bed-clothes, symptoms which were strongly marked in this case, gave way to a most violent attack of delirium tremens. This

experience teaches that the alcohol-habit creates a predisposition to pneumonia, and that alcoholism is one of the gravest complications of the latter disease. When this condition is taken in connection with the delirium and the picking at the bedclothes it is quite certain that the prognosis was not reassuring in this case.

2. *The resolving power of the ice on the pneumonic exudation.* It is of course well known that cold has the power of contracting the bloodvessels, and with this view of its action it is clear how ice is capable of dissipating an engorged state of the circulation such as is found in the early stage of pneumonia; but when it resolves an inflamed area which, from the absence of the respiratory murmur and the presence of the flat percussion-note, it is quite certain had passed beyond the stage of engorgement and into that of exudation, we are more or less at a loss to account for the mode of its operation. I must confess that the lateness of the time at which the ice was first applied made me very doubtful whether it would have the least influ-



became so active that it was necessary to strap the man in bed for twenty-four hours, and under the liberal appliance of morphine, potassium bromide, sulfonal, and whiskey the attack was subdued in about forty-eight hours, and after this he made an uninterrupted recovery.

The accompanying chart illustrates the temperature, pulse, and respiration rate of the case.

This case presents several features upon which I shall in conclusion take the liberty of making a few brief comments.

1. *Prognosis.* Without claiming too much it may be said that this was unfavorable. Every-day ex-

perience on this (upper) portion of the lung, and I therefore relied chiefly on its power to check the extension of the disease in the remainder of this organ. That it had this action was well evidenced two days after it had been used, when moist crepitation and the respiratory murmur appeared, showing clearly that the air vesicles were freeing themselves of exuded material and that air again had access to them.

3. *Influence on the symptoms.* In most of the cases that have come under my observation, the pain, difficult respiration, cough, and expectoration so constantly associated with pneumonia were all notably

relieved in a short time after the ice was applied. This alleviation was very pronounced in the case under consideration. Very often it is this feature of the treatment that makes it acceptable to those patients who yield to it at first under strong protest.

4. *Value of strychnine.* The value of strychnine in the treatment of pneumonia has been well demonstrated by Brunton and others, but its efficacy lies only in the administration of large doses and in its being pushed to the point of its physiologic action. When given in this way it is infinitely better than digitalis—in fact, I think the usefulness of the latter drug in pneumonia is greatly over-estimated, and its supposed benefit is founded on a spurious pathology. By the mouth and hypodermatically this patient received nearly half a grain ($\frac{1}{2}$) of strychnine daily for five days with good results. It is needless to say, however, that if he had not been a chronic alcoholic the physiologic limit of the action of the drug could have been reached by giving smaller doses—say from $\frac{1}{8}$ to $\frac{1}{4}$ of a grain every three or four hours, with an extra daily injection of $\frac{1}{8}$ of a grain.

Details of treatment. Surround the affected area, front, side, and back, with rubber ice-bags well wrapped in towels, continuously. Care must be exercised to prevent the ice-bags from leaking, and from moving away from the chest. Place an ice-bag on the head. Give from $\frac{1}{8}$ to $\frac{1}{4}$ of a grain of strychnine, by the mouth, every three or four hours, and an injection of $\frac{1}{8}$ of a grain of the same drug once a day until its physiologic action becomes apparent in restlessness, which may, perhaps, be first observed in the lower extremities, the reflexes of which are usually enhanced. Give morphine hypodermatically to produce sleep, and three ounces of freshly expressed beef-juice¹ alternately with a glassful of milk with whiskey every two hours. If the stomach is rebellious give the beef-juice, milk, and whiskey by the rectum. A tablespoonful of beef-powder in chocolate or coffee is a most valuable food in these cases when given every three hours. In the convalescent stage I have found the following formula very serviceable:

R.—Strychninæ sulph. . . . gr. 1½.
 Syr. acidi hydriodici }
 Syr. hypophosph. } . aa f3ij.—M.

S.—One teaspoonful four times daily.

The Medical Week, the first number of which appeared December 2, 1892, is the name of the English edition of *La Semaine Médicale*. A Spanish edition—*La Semana Médica*—is also published.

¹ The Osborne Beef Press, No. 1 or No. 2, may be used to express the juice of fresh beef.

PLASTER-OF-PARIS IN ORTHOPEDICS.¹

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LAST year, in my review of the orthopedic work of the late Mr. Thomas, I observed how rarely, if ever, he made use of plaster-of-Paris. I do recall one instance, however. It was when the wire cuirass that he suggests for the treatment of Pott's disease was shaped over a plaster cast of the patient's back. Doubtless, some convenient Italian was called in to do the work. Had Mr. Thomas's armamentarium been enriched with gypsum in its manifold applications, even he might have done better work and obtained still more brilliant results. Nor do those of like limited practice, as was his, realize what a valuable agent is to be found in this article for immobilizing joints, and for retaining parts of the body in improved position after forcible rectification.

The property of rapidly hardening, when once wet, gives to plaster its value. Additionally, it has merit in its cheapness and convenience. It is ever ready, is easily prepared, and simple in its application. Its use renders the surgeon, in many instances, quite independent of the commercial instrument-maker, a consummation devoutly to be wished, for the latter too often assumes the rôle of doctor, both advising and applying the remedy; without anatomic or pathologic knowledge, and too often without judgment, he applies a stereotyped machine, charges generous prices, and consumes for the patient golden moments, when correct treatment, directed by the intelligent surgeon, could have saved a limb or prevented a deformity in a child otherwise doomed to a life-long disfigurement. These proprietors of surgical-instrument shops are as culpable as the class of prescribing druggists. By their illustrated advertisements, and display of showy apparatus in shop-windows and at public fairs, the people are impressed with the idea that to them they should apply for relief. The profession itself merits a share of blame in this matter. Its members having cases of deformity too often very willingly turn them over to the instrument-maker for apparatus, without having any idea of what is best suited. In fact, having pocketed the consultation-fee, they are glad to get rid of cases about which they know but little, and with which they do not care to be troubled. The set appliances which these mercantile surgical-instrument men handle are very like the patent medicines which can be used without the aid of a doctor.

A better day, however, is now rapidly dawning,

¹ Read before the American Orthopedic Association.

when the people, as well as the general profession, are beginning to understand that the successful treatment of deformities, in their intricate and chronic peculiarities, requires the intelligent guidance of specially educated and experienced surgeons. The advanced work of this Association, in correctly educating the profession in these matters, is redeeming the poor cripples from the unprincipled hand of charlatan and mere mechanic.

Welcome! say we, to the intelligent and skilled artisan that can fashion the willing steel according to the ideas of the orthopedic surgeon. He becomes our right-hand man—like the pharmacist to the physician, valued when needed. It is, however, always better if the surgeon can do his own work, for he best knows what is required. Thus, the intelligent use of plaster-of-Paris often renders us independent of the machinist. With it we accomplish good results, and cheaply, too—economizing time and the patient's money. With its use there is no interruption of treatment for repair of broken braces, often a serious matter to the country practitioner far removed from the urban instrument-maker.

We, as surgeons, are largely wedded to methods that have been taught us and with which we are most familiar. Thus, a few orthopedists limit themselves to steel bars and leather straps, ignoring the use of plaster because unfamiliar with its manifold virtues. I, however, opine that all those now entering the orthopedic arena will, among other accomplishments, be expert in the use of the plaster bandage.

Those of us who employ this bandage differ in some of the minor details of its preparation. Thus, not a few prefer crinoline into which to rub the plaster, some previously removing its starch by washing. Individually, I prefer the so-called butter-cloth, Holstein brand. It is more open-meshed than the cheese-cloth, and nearly as much so as the crinoline, and its cost is one-half of that of the latter. Bought by the bolt, it may at once be cut into convenient widths at the bookbinder's, or in twenty-yard folds with a sharp cobbler's knife, on a cutting-board, against a steel straight-edge, or square. Three-inch and four-inch strips are none too wide for application to the trunk; they may be narrower for the limbs, and still more so for infant feet. These strips are cut in desirable lengths; here, again, longer for the trunk and shorter for the limbs. This can be done as each individual strip is being sprinkled with fresh dental plaster, which is most economically purchased by the half-barrel, and is also to be had in two-gallon covered tin buckets.

For preparing the bandage we may use any one of the ingenious plaster-bandage rollers found in the shops. But, if we do, we will probably return to

the hand for sprinkling, rubbing, pressing, and loosely rolling the strip. This is best done on the table-top, entirely covered with a piece of stout wrapping-paper, which is afterward gathered up, and the loose plaster shaken into the large tin-bucket plaster-holder, then folded and put away for future use. With proper care no scattering of plaster need occur. For the same purpose, also, Doctor Weigel has devised a board with slightly raised sides, a box filled with plaster being attached to one end, through which the bandage passes while being rolled off the board with the hand.

The rollers are put away into a tight tin can, and kept in a dry place until needed. When required for use they are soaked in warm water. As my own are tightly rolled, I keep three or four soaking during the application, always placing the last one in the water farthest removed from the hand, that they may be taken out in the order of their placing. A pinch of salt previously dissolved in the water hastens hardening when desirable, but increases the brittleness. I rarely employ it except when making moulds.

In applying the bandage, much tension should not ordinarily be used, as some unevenness thereby results, with consequent discomfort to the patient. Each round is made to overlap its predecessor one-half its width, and is rubbed smooth. Reverses are rarely required. The plaster is not applied directly to the skin—a shirt, a stocking, a flannel, or sheet-cotton bandage being interposed. A few moments suffice for hardening, when, as a result of the application, we have a firm, fixed dressing. Should it be desirable to remove it at once, a pencil-mark is made in the line of proposed separation, and with an ordinary pocket-knife a V-shaped groove is cut the whole length of the splint. By inserting the index-finger of the left hand under one end of the splint, the plaster, with the lining, can be completely divided without touching the skin; or a corset-steel may be passed under, next the skin, and cut down upon; or, preferably, an instrument such as I have devised may be used. This consists of a small steel plate, half an inch wide and two inches long, fixed on its flat upper surface to a handle. This surface is plated with zinc, so that the knife-blade may not be dulled as it cuts down upon it.

The plaster splint having been cut nearly through by a gutter-shaped incision, V-like, the flat blade of the instrument is slipped under the plaster next to the skin, and is cut down upon with a sharp knife, and slowly advanced until the whole is divided.

A freshly-applied splint cuts readily, whereas an old splint may be so hard as to require softening. For the latter purpose nitro-hydrochloric acid was

formerly advised, but it is unnecessarily strong, and might burn the patient's skin. I find vinegar, ever at hand, sufficiently strong to soften the plaster, which may be freely scratched with a knife-blade in the line of proposed incision, and the vinegar plentifully dropped on with a pipette. Very soon

FIG. 1.



Skin protector; used in cutting off plaster splints.

the plaster is sufficiently soft to be cut. Various shears and saws have been devised for dividing the plaster. One form of the latter, suggested by Dr. Meisenbach, consists of two equal-sized saw-blades, shaped like the Hey's saw, three-eighths of an inch apart, and parallel, and attached to a strong handle.

In use it not only divides the plaster, but removes a

For dividing splints, however, I prefer a sharp pocket-knife, a little vinegar, and my skin-protector. Some fancy a hooked knife-blade shaped like a gardener's pruning-knife, but this cuts only on the point and is likely to wound the skin.

Fixed splints that have been made removable by cutting may be bound on the edges and fastened with hooks or buckles, or with an ordinary roller, and thus taken off and replaced at pleasure.

The plaster bandage is not only useful for making splints, but also for taking moulds of any part of the body. The part being covered with some light, snug-fitting stuff, the wet bandage, well soaked, is applied loosely, without tension, as otherwise ridges will be made and unevenness result. The bandage is allowed, so to speak, to adapt itself, and is smoothed down with the hands and gently forced into any depressions. Less plaster is used than in the case of a permanent dressing. In a few moments this incasing splint is sufficiently hardened to be cut off in a manner already suggested; the shirt, stocking, or whatever was used to cover the skin being removed with it and becoming its lining. The more sleazy this material the better, for it adheres the more closely to the inner surface of the mould. While I so advise, yet it is not absolutely necessary that any material should cover the skin, for the plaster bandage may be applied directly to the part if previously well soaped or greased; but in this case so fine a surface is not given to the resulting cast.

After removal, the cut edges are nicely adapted and the mould is wound around with twine. So rapidly does the plaster dry that one may proceed directly to make the cast, or the mould may be laid aside for future use.

The line of union of the cut edges is stopped with fluid plaster applied to the outside, and, if it is a

FIG. 2.



Saw, double-bladed or single-bladed, for dividing hard plaster.

strip, three-eighths of an inch wide, so desirable when the splint is to be reapplied, that it shall be tighter. Both plaster splints upon the limbs and plaster jackets upon the body become loose and fit less snugly after being worn awhile, from atrophy of the soft parts. One of the blades of this saw can be removed by loosening the thumb-screw, shown at the side, and thus be used to make a single cut. It is unnecessary to soften the plaster when a saw is used.

body mould that has been made, the lower open end is placed on a rough board and stopped around on the outside with plaster. Then ordinary commercial plaster, mixed with water in a large earthen bowl to the consistency of cream, is poured into the mould. This is to be repeated as often as is necessary until the mould is full.

If the cast had been made on a smooth surface—a table-top, for instance—the mould would not have

adhered, but as the fluid plaster was poured in would have risen up, allowing escape at the bottom. The rough, sawed surface of a pine board affords strong attachment for the plaster, thus precluding such an accident.

If a cast of the trunk is being made, plaster can be economized and the cast made lighter by forcing down into the center of the fluid plaster round tin cans. Casts of limbs are made solid, and are strengthened by bundles of wire or several iron rods passed through them lengthwise. One end—the lower—is closed by tying over it rubber or other cloth previously to pouring in the plaster. In half an hour or more the plaster will have set sufficiently to allow removal of the outside mould. A sudden force readily separates the cast from the board. The plaster that was used for stopping the line of junction is now chipped away, and the mould, with its lining, is easily peeled off, leaving the cast intact. There is rarely trouble because of the plaster of the cast adhering to the inside of the mould. Did one fear such a contingency, smearing the inside of the mould with lard previously to filling would prevent it. The cast requires pointing up, and if desirable, may be reshaped, adding here and taking off there; this is best done at once, while the plaster is still moist and comparatively soft. The thin and sharp blade of an old case-knife answers as a tool, though other instruments made especially for the purpose can be found in the shops, and are convenient.

Casts made as thus detailed answer all purposes except when great hardness and toughness are required—when, *e. g.*, they may be subject to the blows of a hammer as in shaping the wood and glue jackets. In such case finely picked tow is thoroughly incorporated into the fluid plaster, and the inside of the mould (probably of the trunk) is smeared all around with it to the thickness of three inches, more or less. On removing the outside casing or mould there remains a light but very tough cast.

Casts are desirable either for preserving the form of a distorted part or to furnish a basis over which to shape splints. There is scarcely a deformity that cannot be well taken in this simple manner, and I cannot too strongly urge the importance of obtaining and keeping casts of our deformed cases, especially the rare ones. They have a place in the history of the cases and are valuable for illustration and instruction. None should be deterred from attempting to make them; the process is so simple and rapid that anyone may soon become an expert, whether the cast is made as above detailed or after the older methods of pouring fluid plaster directly upon the skin, previously well oiled or soaped.

Dr. Whitman, in making a cast of the foot, the toes excepted, suggests that thickly mixed plaster

be poured upon a square of cotton cloth, and the outside of the foot be allowed to sink into it; the edges of the cloth are then raised until more than one half of the foot is covered; when this is hard, vaselin is spread on its upper surface, and the exposed portion of the foot covered with more plaster. When hard, the two halves are taken off, bandaged together, and the interior, previously oiled, filled with fluid plaster. The outer shell being removed, a cast is obtained of the foot.

A few words may be added as to the employment of the plaster bandage in various affections and in different regions of the body. Gypsum had been recommended by Mathiesen of Holland as early as 1852, as a convenient material with which to treat fractures, but the plaster bandage was first employed for the relief of a deformity in 1875, the affection being Pott's disease; and it still holds its place as an economical and efficient support to the body in spondylitis, especially of the lumbar and of the lower and mid-dorsal regions. The novice in its use finds trouble in the ulceration or excoriation of the skin that often occurs over the boss; to prevent the undue pressure and friction that cause this, I cut an oblong opening in a sufficiently thick piece of boiler felt, and place it over the projecting spinous processes, care being taken that it does not shift as the bandage is drawn around and over it. Boiler felt also makes efficient pads for the hip-bones in adult patients. Usually the plaster jacket is made to extend above not higher than the axillæ; but if the disease is in the cervical or upper dorsal region, more thorough support can be obtained by carrying the bandage above the shoulders, like a vest. I cannot say whether or not I was the first to adopt this plan, now some twelve years since, but certainly support for three or four additional vertebrae can thus be had; and with the disease in the cervical region the bandage has been carried still higher, up the back of the neck and around the head. To additionally strengthen the jacket I fortify it with strips of galvanized-wire gauze, the size and strength of the strips depending upon the age of the patient; the corners are cut off and the edges bound with sticking-plaster. The plaster is better incorporated with the gauze than with perforated tin.

In lateral curvature a plaster jacket or corset gives support and comfort, but is not used as a corrective of the deformity.

The use of the plaster bandage has, within the past dozen years, almost revolutionized the treatment of club-foot. Through its aid we now do at one sitting what formerly required many weeks. Under an anesthetic the foot is at once straightened, with or without tenotomy (according to the age of the patient), and so held by the plaster, a sheet-cotton roller having been previously applied to the part.

Here again I find valuable aid in a strip of wire gauze: a layer of plaster bandage having been placed over the foot and leg, one end of a narrow gauze strip is carried around the foot, and while it is forcibly held in corrective position, the other end of the strip is carried well up the outside of the leg and there fixed with additional rolls of the bandage.

In hip-disease, the joint may be quite efficiently immobilized by a plaster bandage carried well up on to the trunk and down to the lower third of the leg. This is a ready method for the country practitioner far removed from the instrument-maker, or when economy is necessary. This bandage, however, finds more suitable adoption in the immobilization of the knee-joint. The limb being covered with a long stocking or drawer leg, and the articulation surrounded by cotton, the plaster is carried well up on the thigh and down upon the leg, and fortified with metal gauze strips on the sides, thus affording a cheap and efficient splint. If, however, the patient is much on his feet, the splint tends to drop—to become displaced downward. This may be prevented by giving it support through a steel arm extending to the sole of the shoe, or it may be suspended by straps from the opposite shoulder. I have also to good purpose used a piece of adhesive plaster for fixing the splint to the skin of the leg at the time of application.

In disease and sprains of the ankle-joint, plaster finds frequent and admirable application, care being taken that the foot is put up at a right angle—not extended.

The gypsum bandage is applied to the elbow-joint and the wrist-joint for immobilization, meeting well the indications. Care is exercised here, as wherever the plaster bandage is applied, that it is not wound around the part so tightly as to produce undue constriction and interference of the circulation, with consequent sloughing. The appearance of the part beyond the bandage, as of the fingers or the toes, will indicate danger by coldness, swelling, and discoloration, in which event the plaster should at once be cut off. A case of malpractice is now pending in our courts in which a doctor applied a plaster dressing to a boy's arm for a fracture extending into the elbow-joint, and extensive sloughing of the tissues of the forearm followed.

In both in-knee and out-knee, and in tibial curves after forcible manual correction or after osteotomy, the plaster splint holds the limb in the desired position until union takes place in the second case or accommodative changes have fulfilled the indications in the first. In manual correction of genu varum or valgum I change the splint every three or four weeks. In wry-neck, after myotomy and subsequent rectification, the bandage from a body-jacket is continued up the back of the neck and around

the head, thus firmly holding the parts in the corrected position.

Having subcutaneously tapped a ganglion and scarified the interior of the sac with a spear-pointed instrument, like a couching-needle, and effectually expressed the contents, I apply a firm pad, and put up the wrist in a flexed position, with a plaster bandage extending down the forearm and including the hand. Obliteration of the ganglion universally follows.

I might multiply the instances in which the gypsum bandage finds admirable and convenient application, but will rest with the suggestion, that as one becomes more expert in its use, the more often he will find occasion for it.

ORIGINAL ADDRESS.

VALEDICTORY ADDRESS.¹

BY ALFRED L. LOOMIS, M.D., LL.D.,
OF NEW YORK.

FELLOWS OF THE NEW YORK ACADEMY OF MEDICINE: Before I pass to my distinguished successor the insignia of office with which you honored me four years ago, it seems fitting that I should review in brief the work of these years, that we may the better appreciate the rapidly increasing breadth of our fellowship, and recognize that privilege and obligation are twin sisters in their growth.

The story told in dates and figures alone might be cold and formal, but the ratio between 640 and 270 bristles with interest when each unit means a Fellow and we recognize that the new members received in four years equal more than 33 per cent. of our entire membership so short a time ago. And interest passes to pride, when among the new faces we see so many of the older members of the profession whose honorable positions and intellectual work have brought us both strength and renown. Nor is our pride without hope for the future. Among the younger members who now share our fellowship are found many of the most active workers in the profession, not a few of whom have already gained honorable distinction for work done. Every line of our growth is marked by equally eloquent figures. The 7000 new volumes and the 2000 new pamphlets which already crowd our present shelves to overflowing, and have raised the catalogue of our library to 27,000 volumes and 8500 pamphlets, represent but a slightly lower per cent. of increase. The breadth of privilege which these figures indicate cannot be made more clear, nor is it possible to obscure the twin, obligation. Men and books are valuable only when combined with mental processes. How faithfully we have met this obligation is shown in the fact that the number availing themselves of the privilege of our library has increased in three years 350 per cent., while men and means have increased one-third. The work done in our library has increased three and one-third times. These figures gladden our hearts, for they indicate that our fellowship is

¹ Delivered before the New York Academy of Medicine, Jan. 19, 1893.

doing ten times more brain-work than it did four years ago, its intellectual status is being elevated, and a deeper enthusiasm and stronger purpose is giving more certain relief and comfort to suffering humanity.

It may not be uninteresting to recall the more material side of our history in these harvest years.

In 1888 we held a clear title to the Academy building in Thirty-first Street, which was valued at \$60,000, and our building fund had reached \$96,000. Under the stimulus of Dr. Jacobi's enthusiasm there had been many discussions in both Academy and council regarding the immediate necessity of a new Academy building, which finally crystallized at the regular meeting of October 18, 1888, into the unanimous passage of the resolution "that in the opinion of the Academy it is now expedient to take active steps toward the purchase of a site and the erection of a new Academy building." The trustees and council were instructed to carry out the intents of this resolution. Owing to unexpected complications it was not until March 7, 1889 that the council reported to the Academy the execution of a contract for the purchase of a site on West Forty-third Street, at a cost of \$90,000. Formal authority to draw upon such funds of the Academy as could be legally used for that purpose was conferred upon the trustees by vote of the Academy at the meeting of April 14, 1889, when a special building committee, composed of Drs. Jacobi, Herrick, Peters, Castle, and Loomis, was appointed and intrusted with all matters of detail. Two months were spent in consideration of plans and designs, and on June 4, 1889, the Academy accepted unanimously those of Mr. Robertson, which the building committee had submitted as having their approval, and authorized the committee to make contracts for the erection of a building in accordance with these plans, and under the supervision of Mr. Robertson, as architect. These instructions were obeyed with the least possible delay, and on October 2, 1889, less than one year from the date when the Academy assumed a definite position on this question, the corner-stone of this building was laid with appropriate ceremonies. At the end of another year your building committee formerly transferred this completed building to the board of trustees.

The anniversary meeting of November 20, 1890, was made memorable by the dedication of the most complete and appropriate building of its kind in the country, and the formal opening of its library to the profession and the public. It was an occasion which will be long remembered, not alone by those present, but by all who appreciate the full significance of the event; when distinguished members of our profession from neighboring cities, and eminent citizens of our own city, who had given generous proofs of their sympathy, united in celebrating the consummation of our long-cherished hopes.

Never was there more beautiful illustration of the truth that, to earnest men, the end is but a new beginning, than in the spirit of all that was said or done on that occasion. Our anniversary orator looked backward only to see in the zeal which had attended our growth from the first, the promise that our Academy was to go forward in the future to enlarge in generous measure her chosen work, and consummate her functions, sustained by a common impulse among her Fellows to work for work's sake.

That eloquent champion of our library, your honored ex-President, Dr. Jacobi, saw in this building no home for lotus-eaters, but the visible vestibule for a new epoch in medical learning and achievement. His strong words found faithful echo in the trembling accents of our honored, our beloved Barker. With the dawn of another life already tingeing his horizon, his prophetic promise to this Academy of a new era, so full of grander things, that none would venture to cast a horoscope of its future, was spoken in tones that almost made real the spirit of "Now, Lord, lettest Thou thy servant depart in peace," nor were such conceptions distorted images of blind affection.

In the communication sent us by our noble and generous friend, D. Willis James, were these words, which should be repeated to every large-hearted citizen of New York: "Look at the magnificent work the medical profession has done and is doing. Remembering all they have accomplished for suffering humanity, let us, as citizens of New York, see to it that in our midst the means are ample and promptly supplied for the most scientific research in all departments of learning, but especially in medical science."

That full appreciation of our profession is too often lacking when most expected, must be confessed with sorrow, for Weir Mitchell told us that although the medical guild possessed a high code of morals, which was old before Christianity was born, a code based on honor, loving brotherhood, and the largest charity, even when made practical in self-sacrifice, it has never been fully appreciated even by the recipients, else would they be more eagerly generous in their assistance in building halls and furnishing libraries.

The old but ever new spirit of our profession, which has borne it onward and upward, regardless of rewards, was most beautifully portrayed by our loved and honored brother, Oliver Wendell Holmes, who wrote in his greeting for that night: "An academy which fulfils its highest function is a true working body. It deals with loving subjects. It handles unsettled questions. It sets tasks for its members and furnishes, so far as it can, the appliances required for their accomplishment. It offers rewards for meritorious performances, and sits in judgment on the aspirants for distinction. It furnishes the nearest approach we can expect to a fixed standard of excellence by which the work of new hands, and the new work of old hands, can be judged. It is a barrier, a breakwater, against the rush of false pretensions which are constantly attempting to find their way into public confidence. Academies have been too often thought of as places of honorable retirement and dignity and ease, nooks where emeritus professors and effete men of letters, once cocks of the walk, could sit in quiet roosts while the fighting, the clucking, and the crowing were going on beneath them."

With such words of cheer and sympathy, of promise and prophecy, of warning and advice, amid the gracious smiles of approving friends, this building was dedicated a little more than two years ago. Experience has shown it in every way suited to our wants and work, and from the day of its dedication until now, not only has prosperity attended us, but a broader and more tolerant spirit has been developed in our membership. The links which bind together the

senior and junior members of our fellowship have grown stronger; jealousies and intolerance have given place to liberality and kindness, and the Academy has become the center of the best thought and the best spirit of the entire profession. The young enthusiast and the aged conservative are crossing swords with that spirit of modest recognition of truth in which one scientific worker is always willing to meet his fellow. We are to-day exerting a greater influence on public thought and action than ever before. We are being more and more appealed to in the legislative and economic work of the Commonwealth. The public health and safety of our citizens are being more and more committed to our hands. Last summer, when our city was threatened by the invasion of a pestilence, the whole community looked to us for protection, and through the governing body of our nation's commerce, appealed to us for advice and guidance. Do you realize, gentlemen how large a feeling of safety comes to the public on account of the presence of the Academy in the midst of our city? Let us act wisely and unselfishly in all matters pertaining to the public good.

In our first appeal made to the profession and public to erect a new and more commodious Academy building, it was stated that our most pressing need was a suitable place for our library.

Expressive as they are, the figures which I have given you of the library are but lifeless proofs of the eloquent words spoken by Dr. Jacobi at the laying of the corner-stone, and with increased fervor at the opening of this building—prophecies which are rapidly being fulfilled. The real influence of our library is in the intellectual development of our fellowship, which cannot be measured by figures, but must show itself in the more exhaustive and accurate work done by our members.

But it must be remembered that the cessation of growth is the beginning of regeneration. If we are to go forward, our library must not fall behind. Its endowment fund is now only \$25,000. It should be increased at once to \$100,000; with no less a sum can we keep pace with the present tropical growth of medical science. That some of the large-minded men with ample means will soon discover their privilege is no longer a matter of hope but of certainty, for money in no other place can exert such a constantly widening influence for good, as the increase in our library endowment fund to the sum of \$100,000.

There are not a few in our midst to whom the entire sum seems small, and I would say to those who would share this honor and receive a monument of gratitude, more enduring than marble: Do not delay lest the opportunity be lost. The bronze in yonder tablet was bought for a few dollars, and on its face it simply says, "This man built a hall;" but let me say to those who hear or read these words that this man's name will fall from reverent lips in tones of love and honor when all marble piles are ground to dust.

With our library fund raised to what it must be, our strength would be complete, for all the departments of medicine and surgery are now represented in our sections, so that every Fellow can find a place among congenial workers for making known the results of his study under the sifting but kindly criticism of experts.

The plan by which the general meetings of the Academy each month are placed in charge of the sections in rotation, thus presenting to the Academy the special work being done in them, has not only added interest to the Academy meetings, but has developed a spirit of generous emulation under which all the work has become more systematic; and sections that four years ago were indifferently attended, doing desultory work, have now become active and efficient parts of our organization. The fear that increase in the number of sections would diminish interest in the general meetings has proved groundless, for the attendance at both the Academy and the section meetings has increased rather than decreased.

These evidences of a broader and a deeper scientific spirit doubtless give promise of better things to come; when we appreciate that no hampering debts can distract us from our higher purpose, we enter upon our future not only free from debt, but full owners of a building worth \$380,000, with furnishings representing \$30,000, a growing library valued at \$80,000, and invested funds over and above the \$10,000 bonds still uncanceled, to the amount of \$32,000, making a total of more than half a million. With such a financial status and such a fellowship, the question comes to us to-night—What is the mission of the New York Academy of Medicine?

At the laying of the corner-stone of this building Mr. Cleveland said that "The nobility and sacred character of this mission will never lose its interest, while humanity is touched with human woe; while self-sacrifice receives the homage of Christian hearts; while the suffering and sorrows of our fellow-men start the tears of pity; nor while their alleviation brings comfort and satisfaction to the soul of sympathy." This broad and clear conception of our mission is from a layman's standpoint, but represents work done, not doing. For us the question is one of ways and means, of obligations that are individual and collective. To the individual Fellow we offer opportunities and means for a richer intellectual development and social culture, and justly demand that he use them for his own and our common good. No Fellow has a right to ignore this obligation of fellowship, for the Academy stands before the public for what its individual Fellows may be. For us, obligations and rewards are reciprocal. Whoever shares in honors won by others is bound to make return to the best of his ability.

To everyone the first duty is a recognized connection with one or more of our sections, a connection which imposes the obligation to attend its meetings when possible, to pursue studies and investigations that shall be worthy the attention of the section, to give encouragement and support to fellow-members by serious and earnest consideration of the subjects they may present.

As an organized body we have no more imperative duty, or one requiring greater wisdom, patience, perseverance, and courage, than in organizing and harmonizing medical work. It is worse than folly to shut our eyes to the fact that so large a per cent. of medical work is done to fill time as well as space, as to become a matter of jest and sarcasm even among ourselves. It is worse than cowardice to confess the impossibility of doing enough good work to satisfy the demands of all

our societies, and then make no effort to correct the wrong.

If I may still be permitted to offer one word of advice from this presidential chair, it would be this: That the foremost duty of this Academy to-day, and the one offering in its completion the largest and most valuable returns to us and the profession, is the consolidation and concentration of the medical societies of this city. I do not say this because the many other societies are not doing good work—many of them are doing some of the best that is done—but I do say it because they and we are doing some bad work, because we need their good work as they need ours, and neither needs bad work. In these statements I do not, of course, include the County Society. It occupies a unique position, accomplishes results that we could not accomplish, and possesses functions that cannot be delegated. It and the Academy are complementary bodies. With this exception, then, I am convinced that consolidation of the many small societies with the Academy would be productive of the greatest good to all concerned; that it would do more to conserve energies, to eliminate work that, in being bad, is injurious as well as valueless; to establish higher ideals; to return more generous rewards for work done; and finally, to develop a stronger spirit of common brotherhood than any step which has been taken by the profession. I am unable to see any valid objections to such a union, unless a chartered society holds property accepted under specific restrictions.

The predominance of the social element, which has been advanced as an objection, appears to me a most cogent reason for taking such a step. The introduction of the social element into the regular monthly meetings of the Academy during the past two years, which was made possible by the liberality of some of our Fellows, has demonstrated that the value of the scientific work is enhanced rather than lessened, the discussion of the evening being frequently continued in the groups gathered about the tables. There can certainly be no objection to the addition of the social element, even to the section meetings, whenever the members desire it, and thus fulfil all the claims of the social medical societies.

I cannot leave this chair of office without a word of tribute to the Fellows whom death has taken from us during the past four years; among them are three to whom this Academy will always owe a special debt of gratitude and respect—Du Bois, Barker, Leaming—names which we cannot follow with the hackneyed phrase, "We mourn their loss." As men and friends, the parting brought to each of us in varying measure the aching heart and weary sense of hopeless loss. But to this Academy they can never be lost. The story of their loyalty and devotion, their watchful care and self-sacrifice, their wise counsels and liberal support must continue to exert an influence on every Fellow who values an honorable name. We can pay them no loftier tribute of respect and appreciation than to say, "We do not miss them," for that is the test of a rounded life. We restore the borrowed garments to the earth from whence they came, and call them the man. Why do we thus deceive ourselves? That faithful canvas shows but the house where Barker tarried for a time. Those hands with woman's tender touch were only tools

which did his bidding, and when the recreant voice gave halting service and laggard obedience, who thought to say his wit has dulled, his learning failed, his foresight dimmed, his counsel erred, his love grown cold!

These men did all that man can do. They did their part in life with faithful zeal until their powers gave way; and with that wisdom which never dwells in sordid minds, they died, not to leave their mental wealth for legacies, but day by day transferred it to men with fresher strength, and so gave over, not gave up their work, content in the knowledge that it was not to cease, but grow larger year by year; and when at last their summons came, the best of all they had, the essence of the man, his quality, they left with us.

Why is it that we will not see the truth within this mystery of death? We whine in greedy selfishness: "No man will miss me when I die," and will not see the reason that stares us in the face—the useless man receives his share of being missed when living, and cannot ask for more. The man whose worth is sterling cannot be missed; the force that is the man goes on. As we turn our faces to the front, then, let us not forget these present, if unseen, Fellows; but, made stronger in their influence, let us press forward with unfaltering courage and determination to make and share such measure of worth, that we too shall not be missed.

Fellows of the Academy: Four years ago, when you honored me with the presidency of this Academy, I entered upon the duties of the office with a feeling of self-distrust. Two years ago, when you unanimously elected me to a second term, I felt grateful for the renewed expression of your confidence; but when a Fellow at the close of this term nominated me for a third term, a feeling of pride came to me, for no greater honor could have been conferred upon me. In declining the nomination, I realized that the time had come when the interests of the Academy would be best served by new energies stimulated by a fresh enthusiasm. For all your patient courtesy, and the many evidences of respect and confidence shown me during these years, I give you my grateful thanks, with the feeling that another and the most beautiful chapter of life's labor and waiting is ended.

CLINICAL MEMORANDA.

HERNIA OF THE PLACENTA THROUGH THE MUSCULAR COAT OF THE UTERUS DURING LABOR.

BY J. G. LYNDS, M.D.,

DEMONSTRATOR OF OBSTETRICS AND GYNECOLOGY IN THE UNIVERSITY OF MICHIGAN, ANN ARBOR.

MRS. B., thirty-eight years old, a primipara, called me to attend her on October 9th at 5 A.M. On examination I found an enormously distended bladder, upon evacuation which the pains ceased.

About 6 P.M. I was again called, when I found the patient having strong regular pains, and the os beginning to dilate, everything appearing normal.

On making an examination a couple of hours later, I found an enlargement on her left side at the junction of the upper with the middle third of the uterus. It would almost disappear when there was no uterine contraction, but became larger and larger with each succeeding pain.

After watching it for some time I came to the conclusion that it was a fibroid undergoing abdominal evolution, and becoming subperitoneal; and informed the husband and nurse to that effect.

When the head was about half-way through the bony canal it ceased to descend farther, but the tumor became rapidly larger. Fearing some serious complication I applied the forceps and delivered without any great difficulty. I was surprised that there was no hemorrhage at all. After waiting fifteen or twenty minutes I proceeded to deliver the placenta, first trying expression; this proving unsuccessful, I introduced my finger and followed up the cord as far as I could reach, but failed to find its attachment to the placenta. Introducing my hand, I found that the cord passed through an opening on the left side of the uterus at about the junction of the upper with the middle third of the organ. With difficulty I insinuated a finger and found the attachment of the cord. The opening was very small, only permitting the admission of one finger beside the cord. Thoroughly anesthetizing the patient, I dilated the opening and endeavored to remove the placenta, but found it very firmly attached—so much so that it tore in many pieces in the process of separation. Finally I succeeded in getting it all away and emptying the uterus, the walls of which were very thin. As the organ soon filled up with blood-clots and became about as large as before the placenta was removed, I again thoroughly emptied it, and by bimanual pressure kept it contracted until hemorrhage had ceased. The patient made a very fair recovery. She had some slight symptoms of peritonitis, but nothing of a serious nature. The cause of this odd occurrence must have been a peculiar arrangement of the muscle-fibers, in consequence of which they drew apart at this particular place, leaving an opening through which the placenta escaped, pushing before it the mucous membrane.

A CASE OF HOMATROPINE SUSCEPTIBILITY.

BY GEORGE M. GOULD, A.M., M.D.,
OF PHILADELPHIA.

I LATELY had a patient, a lady, thirty years of age, who showed an extreme idiosyncrasy as regards homatropine. For purposes of mydriasis I dropped into each conjunctival sac a tiny drop of a solution (Merck's manufacture), gr. viij ad 3j, four times at intervals of from five to ten minutes. I habitually instil only a portion of a full-sized drop, by extruding this amount at the end of the dropper and lightly touching the conjunctiva with it. The entire eight droplets would consequently not equal more than one or two of the usual size. In consideration of this fact, and also deducting the amount wiped away with tears or otherwise not absorbed, the total quantity of the drug absorbed must have been infinitesimally small. The following morning the patient's lids were swollen almost shut, and the cheeks for two inches below the eyes were puffy and highly discolored; the skin of the back, chest, arms, and legs was erythematous, and there was general prickly heat with great itching. The effects passed off in twenty-four hours. The patient informed me that similar symptoms had several times resulted from the use of belladonna plasters.

If we liberally suppose that two full drops of the solution were absorbed, it follows that about one-thirtieth of a grain of homatropine produced the effects described.

MEDICAL PROGRESS.

The Prognosis of Actinomycosis.—SCHLANGE (*Archiv f. klin. Chirurgie*, xlv, 4, p. 863) concludes an analysis of sixty cases of actinomycosis of various organs and structures by formulating the prognosis. When the disease involves the head and neck, except in the few cases in which the base of the skull is invaded, the course is favorable, recovery taking place in from a few to nine months; it is exceptional for a fistula to persist or to have formed anew after the lapse of a year. Pulmonary actinomycosis, heretofore considered necessarily fatal, may terminate in recovery. The prognosis of intestinal actinomycosis is the more favorable as the anterior abdominal wall is involved and the retro-peritoneal structures escape. Retro-peritoneal extension of the disease renders unfavorable the local conditions facilitating the expulsion of the fungus; death usually results from amyloid degeneration and wasting. If actinomycosis present pyemic manifestations a fatal termination is to be expected, as a number of vital organs are likely to be involved. Actinomycosis may pursue a chronic course, continuing for thirteen years or longer, if functionally important organs be not involved, as when the process confines itself to the connective tissue about the spinal column.

Changes in the Fields of Vision in Cases of Traumatic Neuroses.—PLACZEK (*Berliner klin. Wochenschr.*, Nos. 35 and 36, 1892) has reported seven cases of traumatic neuroses, in each of which he found certain changes in the fields of vision that have been described as characteristic. The range of vision was greater as the test-object was moved from the periphery of the perimeter to the center than when moved in the opposite direction. It was also found that concentric limitation of the field of vision was characteristic of the traumatic neuroses, though the symptom could not be developed in all cases.

Mercurial Intoxication.—At a recent meeting of the Royal Society of Physicians, of Vienna, PROF. ALBERT (*Internationale klin. Rundschau*, No. 50, 1892, p. 2043) reported that mercurial intoxication had developed in himself as the result of the frequent use of corrosive sublimate in surgical practice. A considerable quantity of mercury was obtained from the urine of twenty-four hours. The intoxication had manifested itself especially in the form of dyspeptic symptoms; the nails had become softer and tougher, and three sound teeth had fallen out.

The Association of Posterior Spinal Sclerosis and General Paresis.—At a meeting of the Société Médicale des Hôpitaux, RAYMOND (*La Médecine Moderne*, 1892, No. 51, p. 774) reported having found, after death, in the case of a man who had at first presented the symptoms of posterior spinal sclerosis, and subsequently in addition those of general paresis, besides the classical systemic lesions of the posterior columns, meningo-encephalitis.

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SATURDAY, JANUARY 21, 1893.

THE SENATE QUARANTINE BILL.

THE quarantine bill passed by the United States Senate is an important protective measure which confers great powers upon the U. S. Marine-Hospital Service, as well as upon the Chief Executive of the Nation. While it does not place quarantine administration absolutely and exclusively in the hands of the National authorities, it virtually has that effect; for it is expressly stated that when at such ports and places within the United States where quarantine regulations exist under the authority of the State or municipality, these regulations are not deemed sufficient in the opinion of the Secretary of the Treasury to prevent the introduction of contagious or infectious diseases into the United States, the Secretary of the Treasury is authorized to make additional rules and regulations to be enforced by the sanitary authorities of the States and municipalities. If the State or municipal authorities fail or refuse to enforce them, the President shall execute and enforce them through officers appointed for the purpose. In other words, quarantine rules and regulations must conform to a National standard, and their execution and enforcement, whether by National or local authorities, are placed under National control.

There is no mistaking the object of the bill as

being the ultimate assumption by the National Government of absolute control of quarantine affairs. It is, however, a tentative measure which has merit in avoiding a too sudden change in administration. As a compromise between opposing views, it also avoids antagonism and a revulsion of feeling which a more radical measure might provoke. The main object—the National supervision of quarantine—is secure, and the effects of the law cannot be otherwise than beneficial.

A uniform quarantine service is a want generally felt and acknowledged. And now is the opportunity for supplying this want. It is a question of National concern, and it is therefore right and proper that the Government should assume the duty and exercise the right to legislate upon the subject.

Another very important feature of the bill is that which gives the President the right to prohibit, in whole or in part, the introduction of persons and property from countries or places where cholera or other infectious or contagious diseases exist. The suspension of immigration, under the circumstances mentioned, will go far to diminish the danger of the introduction of contagious and infectious diseases, and greatly strengthen the bill as a protective measure.

The provision of a liberal appropriation is not the least important item in the bill. Parsimonious appropriations to the local quarantine authorities have been largely to blame for the want of proper equipment of the stations and the resulting inefficiency. The U. S. Marine-Hospital Service will, fortunately, not be hampered by this drawback.

It is greatly to be desired that the bill shall pass the House, and that immediate steps be taken to organize the service under its provisions.

HAHNEMANNIAN TENDENCIES AND PRACTICES.

THERE are certain habits of mind and of action that characterize the quack everywhere and at all times, and when the advertisements, claims, and acts of members persistently show that these tendencies are unrebuked by the composite body to which the individuals belong, it cannot be thought an injustice if the epithet of quackery is applied to the entire association. Several suggestive things have of late come to our notice that, so far as we know, have never received a word of criticism or dissent from the better class of the advocates of homeopathy.

The plainest evidence of quackery is the appeal to the public as to the cure of disease. The advertisement in lay journals of ability to cure disease and of superior medical knowledge, is of the very essence of quackery. The great and official homeopathic druggists, BOERICKE & TAFEL, have lately issued a little book, *Safety in Cholera Times*, and from the character of the writing and from the fact of its being advertised in non-medical journals, it is plainly designed for popular dissemination. The appeal direct to popular prejudice and the densest medical ignorance is made most unblushingly and frankly. Here is an advertisement cut from a lay newspaper:

"*The cholera scare is over.* If the public could be brought to realize the safety from the attacks of this disease that there is in Homeopathy, the scare would never occur again. From official reports, covering over a million cases, we learn that the death-rate of the 'regular,' or Allopathic practice in this disease has been (and from present reports is) 54.8 per cent. of the cases treated. The same reports show that the death-rate in cholera under Homeopathic treatment was 8.5 per cent. Under the proper Homeopathic prophylactic treatment, the danger of contracting the disease is almost *nil*. We publish a little book, *Safety in Cholera Times* (50 cents, by mail 54 cents), that gives the treatment of the disease and the preventive treatment. It is worth the money in the peace of mind it affords. BOERICKE & TAFEL, Homeopathic Publishers and Pharmacists, 1011 Arch Street, Philadelphia, Pa."

The "treatment" of the disease repetitively lauded in this unconsciously humorous and crazy book is *Verat.*³⁰, *Cuprum-metal.*³⁰, *Carb. v.*³⁰, and *Camphor*³. It matters not that if the patient should eat a bit of toasted bread for breakfast he would thereby take myriads of doses of vegetable carbon which in mystic pellets is guaranteed to cure him. It matters not that the physiologic dose of veratrum or copper is, in this 30th "potentization," diluted as much as if dissolved in a body of water equal in size to 480,769 of our worlds. In the same way, what an insult to popular intelligence is implied in the roaring claim of "cures" of cholera by these or by any means. What fools the Hamburgers were, to be sure!

The use of medical knowledge against the men and the profession that have acquired this knowledge and taught the trickster is another characteristic of the quack. A most excellent surgeon and teacher writes us that for many years it has been the custom of the homeopaths of several States about him to send their sons to his college to

acquire the necessary medical knowledge, with no intention that they should subsequently practise scientific medicine. These youngsters, so soon as they get their diplomas, join the ranks of their fathers and at once commence the fight against the "bigoted allopath." Our correspondent says that at a recent convention of homeopaths a number of the most prominent men, as usual, took to raving and fuming over the tyranny of the "old school," its archaic practices and teachings. At the same moment their sons were receiving their entire medical education at a regular or scientific medical college. This throws light on the mental condition of the fellows who "leave the old school," who have "studied both," or who "practise both ways."

This aspect of the affair is indeed but another illustration of the greater fact that not a single truth of medical discovery or progress, not a bacillus, not an instrument of precision or useful method of treatment was ever discovered by a member of this sectarian school. They take the results of the work of other men and use them selfishly, with hatred and abuse of their benefactors. Spongers, all!

A third characteristic of the quack is his disregard as to whether his unscientific fad tallies with the conclusions of other than medical science. There is not a professor of Physics or of Physiology in any institution of learning in Europe or America that would turn with nausea from the question, if the thirtieth "potentization" of a dose of medicine could *a priori*, or, as a result of tests on animals, have any physiologic power whatever. The assertion is too silly to answer. The same is to be said of the last homiopathic egg, the sacred fiddle-faddle of *similia*. To what scientific pathologist or physiologist is it not the most arrant nonsense? And his nausea would be most active, indeed, if asked as to the lice, the pus, the bugs, and the frightful filth catalogued and to-day on sale by SWAN, the New York homeopathic druggist. TESLA cannot bottle up "blue and yellow rays of the spectrum," but SWAN has them for sale at so much a "graft"—and SWAN is of the purest dye of haloed and hallowed homeopathy.

To choose a final illustration among many other proffered ones, we quote from a recent number of the *British Medical Journal* part of an editorial that at once exemplifies many faces of this protean monster. It is entitled "Electro-Homeopathy, or Hahnemann Harnessed":

"On the principle of elective affinities we are not surprised that a union has been effected between the two 'pathies' which constitute the subject of these remarks. Electropathic and homeopathic systems of treatment are so much akin, both in their origin and direction, that nothing is more natural than to find them in company. 'You air my affinity!' exclaimed the Mormon lady to Artemus Ward, the genial showman, as she flung herself into his arms and protested that the Powers above had decreed their union. Thus to homeopathy comes electropathy, and avows it is her long-lost connection. Mr. Labouchere, in the pages of *Truth*, has told the story of the attachment and the celebration of the marriage of this latest fashionable pair. Mr. Knight represents the institution which in this country has been founded for making known the blessings of a new system of electro-homeopathy. Already the latest of the 'medical sects' (pardon us, shades of the teachers of Alexandria) has its annals and its propaganda; its insignia are a red and blue star, indicative, we presume, of the red and blue electricity with which the soap, the dentifrice and gargle, the lime hair-wash, the velvet powder, and the 'lactescent balsamic bath' are impregnated. No longer is the divinity of electropathy enchained in a belt or a pad, but the liberated goddess diffuses her blessings to mankind by the toilet table and the lavatory. 'Sauter,' says *Truth*, 'appears, as far as I can make out, to have succeeded in bottling up vegetable electricity in homeopathic doses. His remedies, marvellous to relate, will cure all diseases, even those regarded as incurable.' But all this cannot be done without money, and as the poor are to have the blessings of the system without money and without price (we are uncertain whether this includes the soap, the dentifrice, and the lactescent balsamic bath), the charitable are invited to send around the 'snowball,' so that money-orders, checks, and bank-notes may pour into the treasury of the Institute of Electro-Homeopathy, and replenish its funds, which appear at present to amount to £3 4s. 1½d. Thus is Hahnemann harnessed to electricity, and thus has the latest medical discovery blessed the world from without the circle of the orthodox. As Mr. Labouchere has turned the search-light of *Truth* upon the new system, its advantages will probably be completely manifested to such of the public as at present are incredulous."

THE CAUSES AND TREATMENT OF PREMATURE BALDNESS.

SEEGER (*Wiener Klinik*, December, 1892) discusses in a lucid and consecutive manner the influences that lead to the development of premature baldness not dependent upon demonstrable disease or upon the presence of parasites, and describes the therapeutic measures to be adopted in accordance with a knowledge of the anatomy and physiology of the parts.

The fact that baldness is more common in men than in women, and that when it occurs in the latter not the same parts of the head are affected as in the former, at once suggests the thought that the source

of difference is to be found in the care and covering of the hair in the two sexes. In males, baldness usually first appears over the frontal bone, centrally or laterally, or over the occipital bone just above the protuberance; while in women the hair is first prematurely lost behind the ears or at the vertex of the head.

Men, as a rule, wear heavy, rigid, impermeable hats, provided with bands that constrict the forehead, so that the normal ventilation of the skin of the scalp is interfered with, while perspiration is stimulated and evaporation prevented, and circulation and innervation are interrupted. The parts, by being kept heated and moist, are softened and rendered unhealthy; the growth of the hair is unduly stimulated, and the result is an imperfect product. Women, on the other hand, wear light, open hats that interfere little or not at all with the nutritive conditions and nervous supply of the scalp. Men, too, usually have their hair cut short and are not hardened to exposure of the bare head, while in women the reverse conditions obtain. Short hairs grow faster than, but do not possess as much vitality as, long hairs, nor do they afford the scalp similar protection. When women become bald, some neglect or vice can be found similar to that which accounts for baldness in the male.

Intellectual application contributes to premature baldness only indirectly, by its usual association with neglect of proper physical exercise and regularity in the mode of life. Emotion, anxiety, grief, fright, excessive indulgence in alcohol and tobacco, and certain reflex influences may induce baldness. A powerful predisposing factor to the occurrence of premature loss of hair is heredity.

The treatment of the form of baldness here under consideration naturally suggests itself. In the first place, in a prophylactic way, the headgear is to be as light as possible; it should be provided with openings for the purpose of ventilation, to facilitate the evaporation and escape of the perspiration; by the use of a convoluted band the pressure upon the head can be graduated and distributed; and by wearing the hat back upon the head rather than down over the eyes the pressure will also be reduced to a minimum. In the summer a sun-shade should be used, but the hat should be especially light and airy. The hair should not be cut off too short. It is a common belief that frequent cutting will prevent the development of baldness; but this is a fallacy. The hair should be carefully combed and brushed.

Soap and water will rarely be required. Artificial oils rubbed in by means of the hands are to be avoided when the hair is short. The hair should, under proper circumstances, be exposed as much as possible to facilitate evaporation and to diminish the sensitiveness of the part. In the summer it is well to expose the head morning and evening to the sun.

When baldness threatens or has already set in, the hair should several times daily be systematically brushed radially in all directions from the summit. The occipito-frontal muscle should be exercised also several times in the course of the day. Frictional electricity, by means of a gutta-percha plate (with an insulated handle) rubbed upon a dry cloth or piece of soft leather, should be employed a couple of times a day. The *erectores pilorum* of the affected part can be stimulated by stroking the nape of the neck with a coarse bathing-glove, that may be warmed if necessary.

In case there be a suspicion of a parasitic origin, the following solution may be applied topically: R. Etheral oil of cloves, five drops; pure water of ammonia and pure glycerin, each eighty minims; tincture of *sabadilla*, one ounce. The application is made once a week by means of cotton; after an interval of from fifteen minutes to half an hour the parts are washed with soap and tepid water. The hair should be methodically brushed, and the occipito-frontal muscle should be exercised three times a day; frictional electricity should be employed, and the nape of the neck should be stimulated morning and evening. The following order of procedure should be adopted: Brushing, exercise of the occipito-frontal muscle, stimulation, electrization.

DR. ROBERTS BARTHLOW.

THE members of the medical profession will be gratified to learn of the complete restoration to health of DR. ROBERTS BARTHLOW, and of his resumption of practice in Philadelphia. We trust, and are confident, that many years of great usefulness and honor await this keen intellect, whose contributions to the science, the literature, and the art of medicine are known throughout the medical world.

We have pleasure in announcing an article upon the treatment of cholera, by DR. BARTHLOW, which will soon appear in THE NEWS. Upon this subject probably no American physician is capable

of speaking with a greater authority or from a larger personal experience.

REVIEWS.

A MANUAL OF BACTERIOLOGY. By GEORGE M. STERNBERG, M.D. Illustrated with heliotypes and chromolithographs, and 268 engravings. Pp. 886. New York: William Wood & Co., 1892.

THE last quarter of the nineteenth century will be marked in history as the period of the cultivation of two of the most profitable fields of human knowledge and it would be difficult to decide whether the harvest of the electrician or that of the biologist is most replete with blessings to mankind. One has but to compare Dr. Sternberg's new treatise on Bacteriology with his similar publication of ten years ago, to be impressed with the wonderful advances that have been made in the knowledge of microorganisms within that time. No American is better fitted for the task of reviewing the present state of bacteriologic investigation than Dr. Sternberg. As the pioneer bacteriologist of this country, the author first attracted attention about 1879 by his investigations into the etiology of yellow fever, since which time his name has become familiar from his various publications on septicemia, pneumonia, disinfection, etc., and his position as Director of the Hoagland Laboratory of New York City. The author's practical experience has enabled him to select from the almost endless variety of technologic devices and methods which have been suggested from time to time, and to present a clear statement of such technique as is necessary to an understanding of the life-history of microorganisms.

It is to be regretted, however, that the subject of filtration is passed over in but a cursory manner, inasmuch as it is quite time that the public should be awakened to the shameful manner in which it is being deceived by vendors of filters. That "the porcelain filter is the most reliable and convenient for accomplishing the object in view"—the sterilization of culture-fluids in the laboratory—is all well enough, for there its shortcomings are understood; but thousands of citizens are being led to trust these filters implicitly for the removal of disease-germs from drinking-water, and as Dr. Sternberg's book is undoubtedly intended, in part, to furnish busy practitioners of medicine with knowledge that will enable them to give good advice in bacteriologic matters, it strikes us as scarcely sufficient to pass over the imperfections of this and all other filtering devices with the remark that "after the filter has been in use for some time it may permit the passage of bacteria, and it will be necessary to subject it to a high temperature for the purpose of destroying all organic matter contained in the porous porcelain." We would here call attention to a paper read by Dr. Chas. G. Currier before the Section of Public Health of the New York Academy of Medicine, April 5, 1889, on "The Efficacy of Filters and of Other Means Employed to Purify Drinking-Water," and to recent articles in the *Centralblatt für Bakteriologie und Parasitenkunde* by Babes, Giltay, Aberson, Jolles, Smith, Moore, etc., proving beyond contradiction that filters, as commonly employed, not only do not keep back bacteria, but furnish a nidus of the most dangerous sort for their

growth. By far the most interesting chapter of Dr. Sternberg's book is that treating of Susceptibility and Immunity, and we would wish the book a wide circulation for this one discussion alone, which places the reader in touch with the practical outcome of bacteriology as related to the prevention of disease, and by which he is encouraged to hope that the study of "toxines" and "antitoxines" will eventually lead to the intelligent and successful practice of *antitoxination* for the prevention of many diseases besides anthrax and smallpox. There appears to be a most promising field of research in relation to the possibility of acquiring immunity to certain toxins through inoculation with the blood-serum of immune animals.

The systematic treatment of pathogenic and saprophytic bacteria is all that could be desired, although in connection with the consideration of bacteria in infectious diseases not proved to be due to specific microorganisms space might well have been given for a few words indicating the tendency of recent research in the etiology of these diseases, as, for example, the claims made for *Dochmius duodenalis* as the cause of beri-beri, or for the sporozoa in carcinoma, as, in fact, the author has done in speaking of malaria. As regards the bibliography, its use would have been greatly facilitated by the employment of numbered references. Dr. Sternberg is to be congratulated in having so successfully digested the enormous mass of bacteriologic literature that has accumulated during the last decade. The book is thoroughly scientific throughout. It would have seemed fairer had the author taken pains to give as great prominence to the many creditable researches of other American investigators as to his own, which are frequently referred to in the bibliography. Most of the illustrations are good, particularly the heliotypes. The chromo-lithographic work is not up to the mark, when compared with that in similar German and French works. The presswork deserves no praise, being in many places very uneven, while the index is quite inadequate.

A DICTIONARY OF PSYCHOLOGICAL MEDICINE. Edited by D. HACK TUKE, M.D., LL.D., Examiner in Mental Physiology in the University of London; Lecturer on Psychological Medicine at the Charing-Cross Hospital Medical School; Co-Editor of the "Journal of Mental Science." Two vols. Philadelphia: P. Blakiston, Son & Co., 1892.

THIS work is destined to rank among the medical classics, and will add luster to the reputation that has already been achieved by its distinguished editor. It is not the product of hasty, spasmodic efforts, but shows throughout the results of careful garnering, scholarly method, and editorial judgment as to both matter and style. It contains more than the title, *Psychological Medicine*, would lead one to expect; many related subjects are treated, but none of which the physician and the student of psychiatry should not have knowledge. It is practical in the highest sense; a book that will become a standard work of reference for the general practitioner of medicine, as well as for the neurologist and the alienist. It is an improvement upon many of the latter-day dictionaries and encyclopedias, medical and

otherwise, in the careful allotment of space to subjects, and in the editorial revision of language. Dr. Tuke has chosen his contributors not only from Great Britain, but from the workers and writers of continental Europe, and to a limited extent from our own country. American names that would naturally be looked for are not to be found in the list of contributors, which, however, includes such distinguished authorities as Chapin, Cowles, Donaldson, Earle, Jastrow, and Lombard.

Such a work is worthy of analysis and review, and of careful discussion and criticism of special articles, but the space assigned to a brief notice will not allow of this. The editor is not only an editor in fact, as well as in name, but has contributed between sixty and seventy of the definitions and articles, including such important and diverse subjects as Historical Sketches, Bedsores of the Insane, Classification of Insanity, Constipation in the Insane, Ecstasy, Mental Disorder following Influenza, The Sibyls, Somnambulism, Statistics of Insanity, The Insane in Turkey and Egypt, Vampirism, etc. Old-fashioned, and sometimes perhaps unprofitable, erudition is shown in many of the definitions. Many doctors, not excluding some neurologists and alienists, may learn here for the first time that *anhaphia* means diminution or loss of tactile sensation; that *cenospudia* is brown study, and that *oligopyschia* is imbecility or fatuity, a word which, with the editor, we will agree is quite unnecessary. Not a few terms have been introduced which are of little or no practical value, but are occasionally met in the literature of psychology and psychiatry, and therefore very properly have been defined.

It is difficult, without being invidious, where so much is meritorious, to choose for special mention particular contributions, but we might speak of the article by Ritti on Circular Insanity; of that on Consciousness, by Mercier; of that on Criminal Responsibility, by Orange; and of the medico-legal articles and definitions in general, which will prove of value to the legal as well as to the medical profession. Mickle writes of General Paralysis; Clouston, of Developmental Insanities; Langdon Downs, of Idiocy; Horsley, of Cretinism and Trephining; Charcot and Donkin, of Hysteria. Chapin contributes the article on Provision for the Insane in the United States, and Urquhart a Chronological Bibliography, beginning with 1584 and ending with 1892. Editor, contributors, and publishers are all to be praised.

DISEASES OF THE CHEST, THROAT, AND NASAL CAVITIES, including Physical Diagnosis and Diseases of the Lungs, Heart, and Aorta, Laryngology and Diseases of the Pharynx, Larynx, Nose, Thyroid Gland, and Esophagus. By E. FLETCHER INGALS, A.M., M.D., Professor of Laryngology and Practice of Medicine, Rush Medical College; Professor of Diseases of the Throat and Chest, Northwestern University Woman's Medical School; Professor of Laryngology and Rhinology, Chicago Polyclinic, etc. Second edition, revised and enlarged. 240 illustrations. 8vo., pp. 700. New York: William Wood & Co., 1892.

THIS concise and reliable manual well deserves a second edition. Its author is an experienced practitioner, whose specialism rests upon the broad foundations of general medicine, and he is therefore cautious not to lead students astray by laying undue stress upon

local accidents and coincidences. While, in some instances, we might have desired a different allotment of space to the various topics, this is, after all, a matter of personal judgment, and the author has evidently omitted or condensed with reason, and not at random. While he spells hemorrhage without the diphthong, yet the old and cumbrous form is followed in "anæsthesia," "œdema," "œsophagus," etc. The practice in any book should at least be uniform, and THE MEDICAL NEWS believes that it should be modern. While making due allowance for individual judgment, the section on Diseases of the Lungs and Heart cannot be considered complete when all reference to the important subject of pneumothorax is omitted. The little said about Exophthalmic Goiter is likely to be misleading.

NEWS ITEMS.

Prize Essay on Homeopathy.—Thirteen essays in competition for the prize of One Hundred Dollars offered by Dr. George M. Gould (see THE MEDICAL NEWS, May 7, 1892, p. 510) have been received, and have been read by the judges, Prof. S. Solis-Cohen, Prof. A. P. Brubaker, and Dr. George M. Gould. Without knowledge of the opinion of the others, each judge wrote his own opinion, naming the essay he considered best, and (in case of loss or other accident) also that considered the second best. Upon comparing the three judgments it was found that they were identical. The essay, signed *Iconoclast* was deemed the best, and that with the signature *Jabeni* was the second choice. This unanimity of independent opinion, where there were so many essays of a very high order of merit, is a gratifying fact. Upon breaking the seal of the envelope of *Iconoclast*, we find the card of DR. WILLIAM W. BROWNING, 155 Reid Ave., Brooklyn, N. Y., to whom the prize has been sent. The other essays will be returned to the authors when their addresses and instructions are forwarded.

Courses in Bacteriology.—In view of the possible advent of cholera during the coming summer and the great importance of biologic examinations in the diagnosis, the Directors of the Carnegie Laboratory have arranged for short courses on this subject, under the direction of Dr. Edward K. Dunham, to be open to representatives of Health Boards, Health Officers, and to properly accredited medical men. It is designed that these courses shall have the same general scope and fulfil the same purpose as the cholera courses given at the Hygienic Institute in Berlin.

It is extremely desirable that there should be medical men throughout the country who are trained in the biologic diagnosis of epidemic cholera; so that if doubtful cases appear in any locality there may be at hand men competent to at once make satisfactory biologic examinations. The first cases of Asiatic cholera in the beginning of an epidemic are always doubtful cases; and it is only by means of biologic examinations that a definite conclusion can be reached as to their nature.

The courses begin about the 20th of January, 1893. Each course will continue for about two weeks. The fee, to cover expenses incurred, will be \$25.00.

Applications for admission to the courses should be made in advance to the Directors of the Carnegie Laboratory.

The Milwaukee Medical Journal is a new monthly publication, under the editorial care of Dr. W. H. Earles and Dr. W. H. Neilson. The first number bears date of January, and presents an attractive appearance.

BOOKS AND PAMPHLETS RECEIVED.

Mechanical Support in Fracture and Dislocation of the Sixth Cervical Vertebra. By H. Augustus Wilson, M.D. Reprint, 1892.

Report of a Case of Talipes Equino-varus. By B. Merrill Ricketts, Ph.B., M.D. Reprint, 1892.

Woman's Place in the Christian World. Superior Morally, Inferior Mentally, to Man. Not Qualified for Medicine or Law. The Contrariety and Harmony of the Sexes. By W. W. Parker, M.D. Pamphlet, 1892.

Microscopical Researches of the Corpuscular Elements of the Blood. By M. L. Holbrook, M.D. Reprint, 1892.

Practical Points in the Treatment of some Common Diseases of the Eye. By W. C. Bane, M.D. Reprint, 1892.

Report of the Surgeon-General of the Army to the Secretary of War for the Fiscal Year ending June 30, 1892. Washington: Government Printing Office, 1892.

Multiple Benign Cystic Epithelioma of the Skin. By J. A. Fordyce, M.D. Reprint, 1892.

A Manual of Clinical Ophthalmology. By Howard F. Hansell, M.D., and James H. Bell, M.D. Philadelphia: P. Blakiston, Son & Co., 1892.

Syphilis and the Nervous System. By W. R. Gowers, M.D., F.R.C.P., F.R.S. Philadelphia: P. Blakiston, Son & Co., 1892.

The Operative Treatment of Fistula in Ano. By Lewis H. Adler, Jr., M.D. Reprint, 1892.

Fistula in Ano: General Considerations; Etiology; Symptomatology; Diagnosis; Prognosis. By Lewis H. Adler, Jr., M.D. Reprint, 1892.

Anal Fissure: Its Etiology, Symptomatology, Physical Exploration, Diagnosis, and Prognosis. By Lewis H. Adler, Jr., M.D. Reprint, 1892.

Human Embryology. By Charles Sedgwick Minot. New York: William Wood & Co., 1892.

Criminal Responsibility in the Early Stages of General Paralysis. By Frank P. Norbury, M.D. Reprint, 1892.

Surgical versus Educational Methods for the Improvement of the Condition of the Feeble-minded. By Frank P. Norbury, M.D. Reprint, 1892.

The Treatment of Pulmonary Tuberculosis by Creasote. By Edwin E. Graham, M.D. Reprint, 1892.

Clinical History of a Case of Successful Extraction of a Piece of Steel from an Iris and Lens by an Iridectomy, with Subsequent Absorption of the Lens and Recovery of Normal Vision. By Charles A. Oliver, M.D. Reprint, 1892.

Annual Report of the Postmaster-General of the United States for the Fiscal Year ending June 30, 1892. Washington: Government Printing Office, 1892.

Some Notes on the Corneal Astigmatism in Two Hundred Eyes Measured with the Ophthalmometer of Javal, in Comparison with the Total Subjective Astigmatism after Complete Mydriasis. By G. E. de Schweinitz, M.D. Reprint, 1892.

Transactions of the State Medical Society of Wisconsin. Madison, Wis.: Tracy, Gibbs & Co., 1892.

Teacher and Student. By William Osler, M.D., F.R.C.P. Lond. Pamphlet. Baltimore: John Murphy & Co., 1892.

Umsturz der Harvey'schen Lehre von Blutkreislaufe und Erklärung der Natürlichen Blutbewegung. Von Dr. F. Jezek. Leipzig: Peter Hobbing, 1892.

Typhoid Fever and Impure Milk. By Lewis H. Taylor, M.D. Reprint, 1892.

The Present Demand for Better Medical Education in the South. By Luther B. Grandy, M.D. Reprint, 1892.